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# East Europe Report

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9 MARCH 1987

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## DRAFT RESOLUTION SUBMITTED FOR 13TH PEASANT CONGRESS

East Berlin NEUES DEUTSCHLAND in German 13/14 Dec 86 pp 3-4

[Excerpts] The Eleventh SED Party Congress initiated a new phase in the further organization of the developed socialist society. We, the cooperative farmers, workers and scientists in agriculture, forestry and the food industry unreservedly back its far reaching resolutions. We are going to work conscientiously and with the utmost industry and will thereby contribute to the continued pursuit of the policy of the main task in its unity of economic and social policy.

Feeding the People on the Basis of Domestic Raw Materials

For our further advances we will rely on tried and tested procedures as well as boldly adopting new methods. We will focus on the following:

-- We will continue to strengthen the socioeconomic bases of socialist farm production. Thanks to state ownership, cooperative ownership has considerable long-term development potential. In times to come we cooperative farmers will still remain the main producers of farm products. We will further consolidate cooperative democracy.

-- Our LPG's and VEG'S [state farms] for crop and livestock production are and will continue to be the base units of farm production. Their future is bright.

-- We will devote the utmost attention to the further strengthening of farming enterprises and the deepening of cooperation relations between them. We will use to the best advantage the potentials of the two types of ownership.

-- We cooperative farmers and workers are backed by a wealth of experience, a high educational standard and an extensive scientific-technological potential.

-- Our socialist production conditions offer wide scope to the development of modern productive forces. The use of key technologies is going to more and more feature in our work.

-- We will increase our efforts to raise labor productivity by the more efficient utilization of natural and economic production conditions and by the further perfection of methods and equipment.

-- We will raise per hectare crop yields and the output of livestock products faster than the expenditure of live and embodied labor so as to make an increasing contribution to our national income.

-- We will continue the priority development of crop production, because it represents the foundation for the further rise in the performance of agriculture and the food industry as a whole.

-- As for livestock production, we are starting out from stable stocks and will concentrate on the continuing rise in performance. This will most lastingly improve feed management. We will increase sheep stocks as planned.

-- While utilizing the experiences of cooperative farmers and workers, we will lastingly promote the unity of production growth and advances in efficiency by purposeful measures for the perfection of management, planning and economic accounting.

-- We are increasing the level of responsibility of LPG's, VEG's and their work collectives as the decisive basis for efficient management and will strengthen the material interest of the workers in satisfactory results of their labors.

-- We will carry on individual production as a meaningful supplement of social production.

-- We will make sure that the unity of economic and social policy becomes a living experience for all as the result of the development of efficiency and the planned improvement of working and living conditions, by attractive and productive villages.

Our economic strategy, looking toward the year 2000, represents a sure means for the accomplishment of the tasks confronting us. We appreciate that comprehensive intensification can be lastingly organized only by the widespread application of the findings of science and technology as well as the experiences of the best.

#### Agriculture Increasingly Turning Into a Branch of Applied Science

We are aware that the mastery of the scientific-technological revolution and its linkage with the benefits of socialism represents the central issue in the implementation of the economic strategy. By the dynamic development of productive forces, agriculture is increasingly turning into a branch of applied science.

It will be imperative in all LPG's, VEG's, GPG's [horticultural producer cooperatives], cooperative facilities, combines and VEB's to scientifically

permeate the production processes and organize the technological application of the results of research to the greatest possible extent and for the highest economic profit.

We will always bear in mind that the creative labors of the cooperative farmers, workers and scientists represent the most important factor. Man with his knowledge and ability is the main productive force. He alone activates the factors of intensification such as mechanization, chemicalization, soil improvement, breeding, the efficient utilization of biological potentials, storage and preservation in all their complexity. That is why we intend even more closely to link sound basic knowledge with specialized expertise.

We are interpreting the use of industrialized production methods as a new step in the mastery of natural and economic processes by the resolute deployment of mechanical, chemical, electronic and biological working tools and equipment. The special requirements of our production call for the greater complexity and sophistication of scientific-technological measures.

In the process of intensification we will respond even better to the requirements of environmental control and the production of nature. We will also contribute to the preservation of nature as the basis of the life and production of present and future generations.

#### Key Technologies Offering New Opportunities

We are resolutely gearing ourselves to the application of key technologies. We are aware that microelectronics, information technology and biotechnologies will confront us with greater challenges. At the same time we are aware that their use offers us new opportunities for multiplying the forces of man and for affording him the time to even more intensively occupying with the land, the crops and the livestock.

As concerns the speeded up application of scientific-technological advances, we are striving for longer range, comprehensiveness and commitment with regard to the work of all those involved; we also wish to utilize new kinds of links between science and production. Here we will rely in particular on the scientific-technological centers at the bezirk councils. We have already acquired the first satisfactory experiences in the conclusion of coordination or performance contracts between LPG's, GPG's, VEG's, VEB's, combines and scientific facilities on the principles of economic accounting. We will build further on these experiences. We will also use the knowledge gained in the development of science-production cooperation.

#### Unprecedented Demand for Bold Thinking

Greater efficacy of scientific-technological advances is primarily a challenge to scientists. Motivated by the fact that the prospects and opportunities for science have never before been so great, we scientists will create better leads as well as realize generally briefer research and transfer delays. This will require the readiness to perform and the resolute action of all research collectives as well as the deepening of international cooperation.

Within the framework of the long-range program of research and development for agriculture, forestry and the food industry through the year 2000 we require top results in the following fields especially:

- The improvement and better exploitation of the genetic potential as well as the capacity of plants and livestock;
- The intensively expanded reproduction of soil fertility and the optimum utilization of nutrients;
- The working out of efficient methods for the mechanization and automation of crop and livestock production;
- The development of more effective fertilizers, growth regulators, plant protection substances and veterinary drugs as well as their more efficient application;
- The increase in the effect of the use of water and energy on the production of biological substance;
- The development of quality and efficiency promoting processes and means for the preservation and storage of feed;
- The development of processes raising the quality and efficiency and, in particular, lowering losses in food production;
- The working out of agroeconomic and management methods for making the resource-conserving type of intensively expanded reproduction prevail;
- The drafting of highly efficient methods of afforestation and forest management procedures.

Many LPG's and VEG's or their cooperations already boast science and technology departments. In cooperation with the enterprise groups of the GDR Agricultural Science Society, they help the application of scientific-technological advances relevant to the particular enterprise. Taking actual conditions in account, we will utilize their experiences everywhere and further develop them in accordance with particular requirements.

#### Continuing Priority of the Intensification of Crop Production

To achieve the targets set by the 11th SED Party Congress, we intend by 1990 to harvest in the GDR average at least 50-52 grain units per hectare of agricultural area. This requires us to optimally develop crop production and carry out all intensification measures in coordination and comprehensively. In order to obtain the highest yields in every location and lessen weather related risks, it will be imperative to better handle the factors affecting yields. Good results have been achieved when working with field related highest yield conceptions and highest yield fields. Such work will help us in

future also to systematically and broadly use new scientific results and more efficient varieties as well as get rid of persistent and unwarranted differences in yields.

Our first commandment is the complete and most efficiently use of the land, our most important means of production, and the steadily improvement of its fertility in the joint responsibility of crop and livestock production. We intend to speed up the introduction of computer backed land and stock accounting.

The increased supply of organic substances for the land is indispensable for the organization of comprehensive procedures for the reproduction of soil fertility. We will extensively use all sources such as the expanded cultivation of legumes and intercrops, the lowering of losses of solid and liquid barn manure, the growth of the production of organic fertilizers as well as field and crop cultivation measures.

#### Natural Factors Increasingly Operative

The achievement of the largest possible yields requires us to maintain strict agronomic discipline. That specially applies to the observance of optimum time frames, the quality of all field work, soil management that preserves the soil and protects it against erosion as well as the reduction of pressure damage to the soil.

A broader range of efficient varieties will help us to better take into account conditions in different locations. The use of high-quality farm chemicals must everywhere proceed in close cooperation with the agrochemical centers and most efficiently in accordance with the latest scientific findings. It must certainly be relevant to the respective field and, increasingly, rely on computers. In this connection also we will increasingly use field and crop specific herbicides and pesticides as well as emphasize natural factors in order to produce cheaply and environment-friendly.

To control the water budget we will expand the areas suitable for irrigation in the simplest possible as well as materials conserving manner. We will also expertly maintain the existing irrigation and drainage facilities and use them efficiently. Together with our aerial crop sprayers we will create the prerequisites for the even more efficient use of aerial crop spraying facilities.

We intend by all these measures to secure until 1990 stable yields as follows:

Grain	45- 47 decitons per hectare
Potatoes	250-270 decitons per hectare
Sugar beet	370-390 decitons per hectare
Oil fruit	25- 26 decitons per hectare

We have set ourselves the target by 1990 to achieve the annual production of 12 million tons grain. We have available for development reserves in rye cultivation and also by way of mixed varieties for summer barley and the introduction of tricale.

It will be necessary to further improve potato yields and, in particular, the quality of potatoes for human consumption. We are endeavoring to obtain a major rise in the yields of sugar beet by comprehensively applying all scientific findings and best experiences.

To make possible adequate feed supplies from domestic sources will require us to more quickly raise yields on grasslands as well as in field fodder cultivation, specially multiple cob maize. The further improvement of the quality and energy concentration of feed, particularly silage, is another important task, and so is the expansion of the cultivation of protein rich feed crops, intercrops and hoed feed crops.

As regards vegetable and fruit production, we are concentrating on raising outputs of the vegetables and fruit still not sufficiently produced here to ensure satisfactory supplies from domestic sources. Other key points are the production of early and winter resistant vegetables, the staggering of cultivation, complete irrigation, the full utilization of the many vegetable varieties as well as intensive cultivation under glass and plastics.

By expanding prefabrication and processing in LPG's, GPG's and VEG's, we are assisting the fruit, vegetable and potato combines in their efforts to make all produce supply effective at the lowest possible losses and at the best possible quality.

#### Increasing Performance Per Animal The Priority

Intensification of livestock management requires us to achieve all further growth by raising the performance of each animal. Sheep keeping is the one exception because the rising demand for raw wool calls for larger herds also.

We are continuing to devote the utmost attention to training a sound force of skilled livestock handlers. We intend to constantly improve barn relevant top performance conceptions by new scientific findings and the best experiences and to make these conceptions mandatory. This includes work in accordance with scientifically established nutrition, handling and reproduction methods and procedures, the maintenance, rationalization and modernization of facilities, use of advances in breeding and biotechnical processes as well as of microelectronics and computerized production supervision and control. Our key concerns are the improvement of the standard of livestock raising, of daily weight gain in feeder cattle, milk output per cow, the efficiency of stock reproduction and the quality of all products.

Beef cattle management offers the largest reserves on the basis of our efficient dual use beef cattle. We are aiming for a stable output of 400 kg milk with 4 percent butterfat per cow and year, combined with a longer useful life for cows. We will also strive to achieve at least 700 gram daily weight gain for slaughter cattle and to do so by feeding a large volume of crude fodder. We will substantially expand crosses with meat cattle breeds.

As regards pig production, our target is at least 140 kg slaughter weight for each pig in average holdings and, therefore, a daily weight gain ranging from

500 grams to 600 grams. At least 21 piglets per sow are to be raised per annum. For sheep production we will use absolute sheep feed and raise wool output per animal to at least 3 kg combined with an improvement in quality. One herd of sheep per cooperation is the minimum. We will guarantee the planned fresh egg yield by the efficient use and rationalization of facilities.

With the aid of comprehensive measures in production and by way of the most efficient use of all feed (including industrially manufactured feed), we will improve feed management by 1 percent per annum. This will require the appropriate development and mandatory balancing of local feed reserves.

As for inland fisheries, we intend by various intensification measures to raise the yield of fish for human consumption to at least 120 percent in the current 5-year plan period.

The preservation of the health of livestock is a priority. We therefore advocate the greater involvement of veterinarians in the management, planning and organization of livestock production.

#### Deepening of Cooperation Results in Output and Efficiency

We consider the further consolidation of the crop and livestock production LPG's and VEG's, combined with the deepening of cooperation relations the crucial prerequisite for the implementation of the economic strategy. It is also the tried and tested approach to the dynamic growth of yields, performance and efficiency and, therefore, the main direction of social development in the countryside in the years to come. The Eleventh SED Party Congress has provided us with an excellent orientation.

By deepening cooperation between LPG's and VEG's we made it possible in recent years for crop and livestock production to interact more closely, for the soil-crop-animal-soil cycle to be better handled and natural forces treated with more care. We will now direct our attention to making sure that all cooperation councils are increasingly successful in the exercise of the economy managing functions assigned them by their LPG's and VEG's.

The most important key points for our work are represented by the comprehensive application of the tried and tested principles of socialist management as well as the efficient organization of cooperation relations in accordance with the experiences of the best and the new findings of science. At the same time we thereby create a climate for knowledge and creativity to fully blossom and socialist management to be more and more successful.

Our experiences have confirmed that high-standard membership and workforce meetings, the work with permanent departments and brigades as well as stable management collectives and regional types of production and labor organization are of the utmost importance with regard to all of the above.

Everything mentioned here encourages the individual responsibility of managers and work collectives, the commitment of cooperative farmers and workers to the land and the livestock and therefore benefits the village as a whole.



## Socialist Performance Principle--Strong Motivation

The immediate connection between the results of production and efficiency on the one hand and payment and bonuses on the other provides the motivation for the greatest possible efforts with regard to performance. In order even better to utilize all qualitative growth factors we propose even more closely to link the growth of personal incomes to the further rise in yields per hectare and output per animal, combined with lower specific production consumption. This can be done on condition that internal enterprise planning, accounting and analysis as well as the work with standards and best values are everywhere carried out even more resolutely. The increasing availability of office and personal computers offers us new opportunities for even more accurately, comprehensively and flexibly developing management, planning and economic accounting in our LPG's VEG's and their cooperations. Such equipment also makes for faster information for managers and collectives.

This method of operations also ensures the active collaboration of cooperative farmers and workers in management and planning, entirely in the meaning of our model charters and the law on agricultural producer cooperatives. That is the greatest concern of our tried and tested socialist democracy that we are steadily perfecting.

Performance evaluation, performance comparison and the exchange of experiences as well as cost accounting and cost analysis will be further improved in order to remove unwarranted differences in yields, performance and efficiency, to develop new reserves and improve materials and energy management. We will concentrate even harder on achieving a higher quality of all operations, struggle for reducing losses and ensure order, safety and discipline.

We will extend special assistance to those cooperation councils which have started working in accordance with the new principles in 1986 as well as to those which are not keeping up with the yields and performances of advanced cooperations. Here it will be advisable to provide hands-on assistance by experienced cadres.

## Longer Perspectives and Better Coordination

We consider it a decisive task to achieve longer perspectives and better coordination in cooperative collaboration. We have therefore intensified our work on the development conceptions of kreises and cooperations on the basis of the 5-year plan. We are focusing on the increasingly better handling of the standardized agricultural reproduction process, organized consonant with the division of labor and hope thereby to obtain the largest possible finished and net product available to the national economy. We are directing our efforts to the optimalization of cultivation conditions consonant with the respective site conditions, to the greatest useful rotation performances, increasing output by the livestock holdings and, generally, the progressive further processing of all agricultural raw materials. The assurance of the greatest possible growth in feed production is a priority task, and by tackling it we are involving ourselves also in the centrally and district managed facilities of livestock production.

The model cooperation agreement provides us with satisfactory instructions for action. Each cooperation has an opportunity to organize collaboration in accordance with actual conditions and to gradually perfect it. Rising output and greater efficiency are the decisive criteria for the successful work of the cooperation councils.

We will steadily keep agreed prices at a level suitable to orient the collectives for crop and livestock production to both high volume output and quality, combined with lower costs. This applies to the stimulation of the greater use of crude fodder and the economical and efficient use of concentrates just as much as to manure management. To encourage common interest in high overall performances, we will also resolutely insist on the linkage between performance-dependent remuneration percentages for management cadres and main indices of cooperation.

As centers of the working class in the countryside, our state farms and their performance hold a great deal of responsibility for the comprehensive intensification of agriculture as a whole. By producing seeds and seedling as well as breeding stock and other livestock they provide a substantial contribution to the speed-up of scientific-technological advances. They will emerge even more convincingly as pacemakers of new methods.

The even more effective inclusion of our cooperative facilities, in particular agrochemical centers, land improvement cooperatives and inter-enterprise construction organizations represents an important precondition for comprehensive and lasting intensification. The generalization of best experiences in a new model charter for cooperative facilities will offer much support in this area.

We reaffirm that the enterprises themselves should make the decisions about economic developments and the use of cooperative facilities. We also propose that the working people in the agricultural preparatory sector should to an even greater extent be materially interested in the yield and performance growth of VEG's and VEG's.

#### Constant Top Results Expected of the Agroindustrial Associations

We will use even more broadly the potentials of the existing agroindustrial associations (AIV's) to speed up the application of scientific-technological advances and the planned proportional development of all member enterprises in the region. Cooperating LPG's and VEG's will be further consolidated as legally independent and economically responsible enterprises. Their exemplary cooperative collaboration coupled with an improved standard of the implementation of economy managing functions by the cooperation councils aims at the achievement of constant top performances in terms of production and efficiency. A new stage in the development of agroindustrial associations was initiated by the inclusion of livestock production LPG's and VEG's as well as the greater involvement of preparatory enterprises. This makes available more favorable conditions for the standardized management and planning of the specialized reproduction process in the region, and these need to be resolutely exploited.

Cooperation associations are gaining increased significance in the process of intensification. We will activate association operations on the basis of the recommendations on the organization of cooperation agreements. The key issues here are the application of scientific-technological advances in the entire product line, quality work throughout, the lowest possible losses and generally advanced supply efficacy.

#### Progressive Further Processing Raises the Standard of Supplies

To be able to appropriately supply our public with a wide range of high-quality foods for their healthy nutrition and make available to the national economy more raw materials and products for export, it will be necessary to progressively strengthen cooperation between industry, other preparatory sectors, agriculture, the food industry and the trade.

The workers in the food industry consider their most important task to process agricultural raw materials at the best possible quality, the least possible losses and with rising efficiency. We are directing our creativity and initiative to progressive further processing and the observance of all exploitation and materials consumption standards on the basis of foreman's sphere-related further processing conceptions. By rationalization and modernization we will therefore more quickly improve the scientific-technological standard of equipment and more speedily use microelectronics, robots, biotechnologies and computers. This requires us to emphasize research and development and to raise our own construction of rationalization aids well above the average. Shift work must serve to better utilize capital equipment. Moreover, we will steadily improve working conditions and lessen difficulties and hazards.

#### Our Objective — Efficient and Clean Forests

We, the forestry workers, will do everything possible to always ensure punctual and appropriate supplies of lumber, to process timber in accordance with its characteristics in use and guarantee efficient utilization—including that of broken tree branches, dry or thin timber.

We will therefore further develop our cooperation with agriculture and the woodworking industry. We will substantially raise consumer goods production. By close science-production cooperation we will speed up scientific-technological progress in all decisive sectors, specially with regard to the use of key technologies.

The stable development of district and local ranger stations is the precondition for all important intensification measures, beginning with afforestation via comprehensive high-quality forest cultivation to the protection of forests, specially by the guarantee of order and cleanliness. Many social activities, above all the FDJ action "healthy forests," serve the environmental functions of the forest, its effects on the environment and the well-being of the people.

## Planned Expansion of the Material-Technical Base

We have considerable fixed assets. Their increasingly efficient utilization and modernization represents a crucial requirement of the economic strategy in agriculture, forestry and the food industry. With regard to the planned reproduction of fixed assets, we will guarantee the unity of new acquisition, modernization and maintenance at a higher standard.

We will concentrate the resources available to us through 1990 on the following key points:

- The further mechanization of crop production, the expansion of irrigation and drainage, the maintenance of the land improvement facilities as well as of the capacities for storage and preservation;
- The speeded-up rationalization and modernization of facilities and barns in livestock production;
- The complete maintenance and repair of farm machinery, facilities and equipment of the enterprises of agriculture, forestry and the food industry;
- Building up a network of service stations where all farm machinery may be looked after and the establishment of more simple shelters for farm machinery;
- The expansion of the capacities for the construction of rationalization aids and for repairs;
- The rationalization and expansion of the production facilities of the food industry for the efficient processing of all agricultural raw materials at the least possible losses;
- The mechanization of forestry, specially with regard to the greatest possible utilization of timber. Here we must focus on the recovery and utilization of thin tree branches.

We will increasingly use the key technologies and more speedily expand our center for the use of microelectronics.

We are relying on the fact that, as per the directive of the 11th SED Party Congress to the 5-year plan, our agriculture is to be provided with capital equipment by the branches of the national economy manufacturing such equipment, in particular machine construction, electrical engineering/electronics and agricultural chemistry. All this equipment will help fund saving intensification.

## Special Attention Needed by Farm Machinery

The mechanization and automation of operations is one of the key issues of capital equipment development. We will make available more production and efficiency reserves by the more efficient use, modernization and renewal of farm machinery. We are therefore welcoming the statements by party and

government leaders and thank Comrade Erich Honecker for his personal promise to devote greater attention to the development of farm machinery construction in the GDR.

The machines and equipment to be used in our agriculture should promote greater soil fertility, distinguish themselves by advanced labor productivity, low materials and energy consumption as well as by the longer serviceable life of components and parts and contribute to the improvement of product quality and the reduction of losses. These advance performances by our alliance partner, the leading working class, will enable us to produce better and more cheaply.

The following provided for in the 1986-1990 5-Year Plan are of the utmost importance for us:

- The availability of 7,785 combine harvesters and 3,000 balers;
- The allocation of 32,034 tractors, in particular tractors of the intermediate performance class, including HT 140 barn operation machines. Appropriate replacements are designated for worn out K 700's and T 100's;
- The perfection of transport and handling equipment, in particular by the allocation of 7,235 W 50 trucks and newly developed L 60's as well as 4,080 T 174 or T 188 loaders;
- The introduction of fertilizing and herbicide/pesticide equipment with greater accuracy of distribution and safety including the D 038 manure spreader;
- The lowering of pressure on the land to 80-150 kilopascal by reducing materials use by 20-30 percent, the increased use of double twin tires for tractors as well as the gradual introduction of new technical solutions such as broad tires on various farm machines and special vehicle designs;
- The provision of newly developed pipe milking facilities, herring bone milking parlors, compact refrigerating facilities on the building block system for storage and flow cooling, including heat recovery, as well as the expansion of the use of stripper and milking device remover robots for all milking parlors;
- The introduction of automated production supervision and control systems for dairy cows, pigs and young beef cattle;
- The deployment of production and fodder distribution equipment for all types of feed, various animal concentrations and for ensuring appropriate feeding.

Together with farm machine construction we are orienting future scientific-technological development to standardized product lines and modifications with

different performance classes with regard to tractors, farm machines and trailers in order to better take in account varying natural and economic operating conditions.

We are focusing on:

- The development and introduction to production of a tractor with 150 PS engine performance;
- The development of new tractor propelled sugar beet harvesting equipment with the objective of lowering beet losses to 3 percent and leaf losses to 8 percent;
- The introduction of a new series of combine harvesters with a throughput ranging from 5 kg per second to 12 kg per second;
- The allocation of a newly developed series of potato harvesters.

We will put greater emphasis on the modernization of existing technical equipment. This will require the mounting of components and subassemblies consonant with the latest scientific-technological standards. It will therefore be necessary in the sector of farm machinery to define the necessary capacities and for the farm machine construction industry to make available subassemblies, conversion kits and components.

#### Strong Expansion of Rationalization Aid Construction

We will speed up the increase in the capacity of centrally managed combines for the production of rationalization aids and establish or expand capacities for the production of rationalization aids in all centrally and district managed combines of agriculture and the food industry. In addition it will be necessary to increasingly use the workshops available in the cooperations of LPG's and VEG's for the manufacture of rationalization aids for use in these cooperations.

The efficiency of the production of rationalization aids will be further improved by standardized management and planning.

We are confronted with the task by 1990 to achieve a rationalization aids output of at least M1.7 billion in agriculture and the food industry and of M135 million in forestry.

We intend to secure the highest possible scientific-technological standard for rationalization aids by close cooperation with science and industry, the deepening of product group work, resolute work with our rationalizers and innovators.

As regards crop and livestock production, our efforts will be bent primarily on:

- The supplementation of machine systems for fodder production, in particular hay production, the availability of 6,000 rotor turners or rotor

loaders, 1,800 fodder car loaders with a 30 cubic meter or 50 cubic meter load volume as well as a newly developed car loaders with a cutting device;

-- The better mechanization of the rape harvest by making available at least 400 leaf stripping machine sets and swath loaders;

-- The perfection of the equipment for vegetable and fruit harvesting, including devices for post-harvest handling;

-- The further mechanization of feeding and manure removal as well as the allocation of 8,000 feed distribution cars in a broad assortment.

#### Modernization of Capital Equipment and Improved Materials Management

We are taking account of the fact that the nature of repairs is changing. Repairs are increasingly linked to modernization, and as a result the use value of farm machinery is rising. The servicing, maintenance, preservation and disposal of equipment will be organized as a firm element in the competition of departments and brigades. The speeded-up introduction of technical diagnosis, the complete implementation of damage related repairs and a better quality of all repair work is also intended to develop more reserves to secure the serviceability of the equipment and lengthen its useful life and reduce costs.

We require replacement parts for agriculture, forestry and the food industry to be available at the proper time and in the proper assortment. We will recover all replacement parts suitable for reclaiming and increase reclaiming to M1.5 billion by 1990.

In the field of repairs we are struggling for best values in the socialist competition and consistently employing materials, energy and other funds on the basis of scientifically warranted standards. Such tried and tested management tools as board books, curriculum files, personal accounts, and so on, will be increasingly used in all LPG's, VEG's, GPG's and VEB's of agriculture, forestry and the food industry, and so will office and personal computers.

We, too, acknowledge that rational energy use and conversion is a main source for meeting the growing energy demand. We are shouldering the task by rationalization, transportation optimalization, the utilization of secondary energy and alternative energy sources in the period 1986-1990 to conserve energy equivalent to 3.5 million tons brown coal.

By this basic direction for planned fixed asset reproduction, the improvement of labor productivity and the lowering of specific production consumption we guarantee the necessary performance growth and the perfection of our material-technical base.



## Rising Efficiency in Agricultural Construction and Land Improvement

In our opinion comprehensive intensification includes the need for our buildings and structures to increasingly better satisfy the requirements of modern and efficient production. This gives rise to challenging tasks for our inter-enterprise construction organizations, land improvement cooperatives as well as state agricultural construction and land improvement combines. Even more demanding criteria need to be applied to remodeling, expansion and new construction, to rationalization, reconstruction and repairs, both as regards quality and efficiency. Together we will make sure that inter-enterprise construction organizations and land improvement cooperatives may operate to the fullest extent as our cooperative facilities and on the basis of the plan. We wish so to strengthen them that they may be able to accept responsibility for fixed asset reproduction in our cooperatives and state farms.

## Encouragement for Individual Production

We will continue to further expand the individual production of farm and horticultural products. We are thereby using for the development of reserves this specific kind of productive leisure occupation of cooperative farmers and workers, members of the Union of Small Gardeners, Settlers and Small Livestock Breeders (VKSK) as well as other small producers. The products thus obtained such as fruit, vegetables, eggs, meat, honey and wool, do more than serve the producers' own consumption. They improve the range of merchandise on offer in stores as well as on farmers' and weekly markets. We also consider the agricultural use of all suitable areas a contribution to the organization of an attractive village and a lovely rural landscape.

It is our opinion that individual production should be based on the use of small and fragmentary areas, small individual barns and the development of other reserves. Favorable conditions are provided by the joint efforts of local representatives and mayors, LPG's, VEG's and other local enterprises. It has been found useful for LPG's and VEG's within the framework of their cooperations to appoint honorary directors for the encouragement of individual production.

We assist the VKSK in its efforts by 1990 to establish another 150,000 small horticultural holdings, 20,000 of which are to be located in Berlin. This target was set by the 11th SED Congress, because it will enable even more workers and large families to combine their leisure with socially useful labor.

## The Perfection of Management, Planning and Economic Accounting

The development of our republic, every cooperative and enterprise bears witness to the vitality of our socialist planning, based on socialist ownership of the means of production. In accordance with the 11th SED Congress resolutions we are therefore committed on the basis of democratic centralism to make sure that central state management and planning are strengthened while, at the same time, the own responsibility and creative initiative of LPG's, VEG's and VEB's is further raised and socialist democracy perfected thereby.



There is an urgent need for concentrating the great commitment to performance of cooperative farmers, workers and members of the intelligentsia on even more effectively using all qualitative growth factors for comprehensive intensification, focusing management and planning on the uncompromising application of scientific-technological advances and achieving longer perspectives and greater flexibility in all operations. We will secure the greatest possible stability on the basis of the development conceptions of kreises and cooperations.

Contractual relations with the industries supplying capital goods, processing enterprises and the trade are to be further perfected and to concentrate on the assurance of timely, appropriate and high-quality output and delivery. At the same time we consider it indispensable to contractually secure in full as well as realize at the appropriate dates and quality the material funds made available by the plans.

For the purpose of the further improvement of management and planning skills we are also perfecting the balancing of the reproduction process of agriculture, forestry and the food industry, with the aim of comprehensively organizing all significant relations involved in comprehensive intensification at every level of management and planning and safeguarding the unity of material and financial planning. The work with the indices net product, farm product, cost ratio and profit for performance evaluation must be so improved as to accurately show the contribution to performance growth of each collective, LPG and VEG as well as each cooperation. The construction of a system of computerized replacement part planning and supplies will help guarantee smooth flowing maintenance and the greatest possible operational availability of farm machinery.

We attribute the greatest importance to the increasing activation of the work of kreis RLN's [councils for agricultural production and the foodstuffs industry]. The resolutions adopted in this regard will enable us even more extensively their potential for the implementation of the economic strategy.

We consider it absolutely necessary to maintain until 1990 (as stated at the 11th SED Party Congress) the cost and proceeds relations established by the farm price reform and the 1986 price measures and to safeguard their performance stimulating effect. We will more emphatically use our growing material and financial possibilities for the greatest possible accumulation for the purpose of the stable reproduction of cooperative property and our fixed and circulating assets. This will make it possible for us to raise the proportion of self-financing in the financing of investments, to early repay long-term loans and better cooperate in the perfection of working and living conditions in the villages.

The stimulation of better quality for our products gains increasing importance. More price differentiation in accordance with product quality has been useful and should be even more resolutely pursued.

In the interest of the continuing encouragement of dynamic production and efficiency development we also propose that

- Farm enterprises should purchase scientific-technological services;
- Price surcharges on the principle of benefit sharing should be introduced for qualitatively new products with stable features of crop cultivation and livestock raising;
- Spending on the operation of irrigation facilities and aerial crop spraying is fully included in the costs of LPG's and VEG's; and
- The employers' contributions to the voluntary supplementary pensions of cooperative farmers are paid by the cooperatives.

The ongoing standardization of planning, economic accounting and the economic arrangements between LPG's and VEG's will ensure that the VEG's are going to be able increasingly well to carry out their obligations.

While maintaining all tried and tested principles of management, planning and economic accounting, we consider it necessary in the implementation of the 11th SED Party Congress resolutions to in good time prepare the basic concept for the organization of economic measures for the 1990's. This applies most of all to the measures that LPG's, VEG's and their cooperations need to be prepared for. We regard as urgent the more thorough consideration of economic and natural production conditions with regard to the calculation of taxes.

For the purpose of correctly showing the reproduction of our fixed assets in conformable national and enterprise computation, the reevaluation of fixed assets should be prepared in agriculture also and carried out from 1990 on. At the same time we are proposing to ensure for farming, too, the correct return for the costs of live labor in adjustment to national regulations.

#### Constant Learning Indispensable

The fast rate of advances in science and technology as well ever more active cooperation in the organization of economic and social processes poses new challenges to our political and technical education. Constant learning is therefore indispensable for everyone.

We are actively participating in the "schools of cooperative work" and the "schools of socialist work." We are also utilizing the many educational opportunities offered by the GDR Society for Agricultural Science, the Special Association for Agricultural, Forestry and Food Industry Machinery at the Chamber of Technology, the GDR Scientific Society for Veterinary Medicine and URANIA. We aim by comprehensive programs to organize our educational efforts more systematically, with greater mandatory effect, at a higher standard and even more efficiently.

We are devoting the utmost attention to the recruitment, training and settlement of future members of the profession, especially from our own ranks. To this end we are closely cooperating with schools and the FDJ, improving

polytechnical instruction and helping organize occupational training in accordance with the greater scientific-technical challenges. The best among our young cooperative farmers and workers are delegated to studies at the universities and trained for management jobs. We expect the colleges and technical schools to provide a high standard of theoretical and practical education and offer them the necessary backing to do so.

We will use the labor capacity even more efficiently. It is our objective by 1990 to convert and reorganize about 130,000 jobs and to diminish hardship in another 150,000.

We are steadily improving the observance of our duties and rights in health care, work and fire safety as well as our responsibility for the protection of our socialist property.

#### Active Contribution by the Labor Union

We, the members of the FDGB of agriculture, forestry and the food industry, are making an active contribution to the implementation of the economic strategy. As we are the driving force of the socialist competition and the innovator movement, our most important concern is that of achieving top performances. We are even more closely combining new initiatives and efforts with the improvement of working and living conditions.

#### Confidence in and Responsibility to Our Youth

We have full confidence in our young people and are building on their readiness to serve, their knowledge and ability. We challenge and encourage them by assigning them greater responsibilities and to an even greater extent backing the initiatives of the socialist youth federation in the "FDJ Assignment 11th SED Party Congress."

We young cooperative farmers and workers are activating our efforts in the Movement of the Fair of the Masters of Tomorrow, the youth brigade, youth objects and youth research collectives of the FDJ. We are concentrating specially on the FDJ initiative "livestock production," the kreis youth objects "grain harvest" and "hoed crop harvest," the youth objects "irrigation" and the LPG godparent and village godparent FDJ movements.

#### Backing Our Womenfolk

We are devoting great attention to women cooperative farmers and workers, in particular those who are also mothers. Well thought labor organization provides increasingly satisfactory conditions for their employment on machinery or work in the barns. We are also providing more assistance to those women who are holding managerial jobs.

#### All Together for the Organization of Attractive Villages

We love our villages and intend to organize life in the countryside even more meaningfully.

Housing construction is at the center of our efforts to improve living conditions. Our LPG's, GPG's, VEG's and their cooperative facilities grant financial subsidies for the modernization, remodeling and extension of homes as well as for repairs. We are deepening cooperation with the health care system with regard to general medical care and work hygiene, and are also assisting the further expansion of the respective facilities in the villages.

We are increasingly collaborating in local services such as the establishment of facilities for children, communal kitchens, restaurants, cultural and sports facilities.

In addition we are helping with road construction and water pipe laying as well as with the construction of supply facilities such as bakeries and butcher stores. In addition to juicing plants we are also providing more capacities for processing fruit and vegetables, because these are urgently needed when harvests are abundant.

Our villages are developing satisfactorily whenever these homes of our farmers are closely linked to agricultural production. The law on the local people's representations provides an excellent guideline. On the one hand it is imperative so to organize the regional production organization in LPG's and VEG's as to orient the social activities of brigades and sections to the villages. On the other hand we must use the potential of the village for the dynamic growth of farm production and its efficiency and strive for an attractive calling card of the home village.

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## IBEC HEAD EXPLAINS BANK OPERATIONS, SCOPE OF ACTIVITY

Warsaw POLITYKA in Polish No 44, 1 Nov 86 p 4

[Interview with Vazha Dzhindzhikadze, chairman of the board of the International Bank for Economic Cooperation, by Jacek Poprzeczko]

[Text] [Question] How does IBEC differ from other banks conducting operations on an international scale?

[Answer] If you are referring to capitalist banks, the differences are fundamental. Our status, organization, purpose and function, are different. Our main purpose is to assist--through credits, the accounts-settlement mechanism and other instruments--the economic development of CEMA countries and the economic cooperation between them. The bank's operations conform to the rule of equal rights of member-countries, irrespective of their capital deposit, made proportionally to their share of export in the total turnovers of all CEMA countries. All decisions made by the bank require the unanimous approval of member-states. As distinct from capital banks, we do not aim at maximizing financial gain and we do not conduct any biased policy toward particular countries. The capitalist banks make their granting of credits dependent on many political and economic conditions which lie in the interest of a specific group of states or banks. We make funds available without any conditions.

[Question] Except economic.

[Answer] Our aim is to see credits and financial mechanisms utilized for the economic development of individual countries and for economic ties between them, for greater international division of labor.

[Question] What specific methods are used to achieve these goals?

[Answer] Our bank implements the settlement of multilateral accounts, primarily in the area of commodity exchange. The advantage of our system is that it acts rapidly and without disruption. The instructions of the particular countries to record the respective amounts derived from export and import transactions, are complied with immediately. In order to do this, we have created a very mobile credit system. We grant two types of credits: term credits and accounts-settlement credits. The former are of a planned

nature. They are granted according to need, for 1, 2 or 3 years, and serve to balance the settlement of accounts. Let us say that Poland, for a given year, plans an unfavorable balance of payments amounting to 1 billion transferable rubles. It settles its obligation through an IBEC credit, which it will then repay in 1, 2 or 3 years, as export increases. The accounts-settlement credits are used to repay amounts due in shorter periods of time, up to 30 days, e.g., in situations where deliveries of commodities are delayed. They are granted automatically within the limits assigned to the individual countries. These credits are used to eliminate short-term disruptions, failures of payments to arrive, which may occur in trade.

All accounts are settled and credits are granted in transferable rubles--a collective currency created by the CEMA countries. The transferable ruble fulfills all of the functions specific to money, except that it is not issued in the form of bank notes. This currency has been functioning for 23 years without the disruptions and upheavals which are typical of the currencies of capitalist countries. The issuing headquarters, which puts the transferable ruble into circulation, is the IBEC. Issuance is done in a planned way, as needs arise for the development of economic cooperation in the CEMA countries.

In 1964, i.e., the first year of IBEC's operation, the combined settlement of accounts among member-countries totaled 23 billion transferable rubles. In 1985 this amount had risen to 211 million, which is, according to the rate we use, over \$300 billion. During the first years of our operation we granted credits up to 500-600 million transferable rubles. Now the credit turnover, counting term and accounts-settlement credits, is 15-16 million transferable rubles. Our operations are growing 10 percent each year.

[Question] Many economists believe that the transferable ruble only partially fulfills the function of international money and they call attention to the limitations of the system of multilateral accounts-settlement arising from the rule of bilateral balancing of turnovers.

[Answer] I do not share that opinion. The IBEC financial mechanism serves as the sole instrument in the settlement of multilateral accounts and the transferable ruble fulfills all of the functions of money.

[Question] The bank also conducts operations in freely convertible currencies. What is their scope and form?

[Answer] Their scope is large. We deal with billions of dollars. We grant large credits to member-countries in convertible currencies, which helps to promote East-West trade. I can say that as of today the value of credits made available by us to CEMA states is approximately \$1.5 billion. These funds are used to cover some of the import obligations to Western countries.

[Question] Convertible currencies are also used in internal settlement of accounts between CEMA countries.

[Answer] Yes, but they amount to only about 1.2 percent. They are used in internal accounts-settlement, e.g., in a situation when socialist countries supply goods to each other which were initially planned as deliveries to

capitalist states. Accounts-settlement in convertible currencies then serves as assurance that the inflow of these currencies will be as planned. But as I already said, these operations are very small. Furthermore, we are working on completely eliminating them so that all accounts-settlement is in transferable rubles.

[Question] Where does the Bank get the funds for credits used in remittances to Western countries?

[Answer] These are mainly our own funds as well as funds obtained from Western countries in the form of deposits and credits.

[Question] Your own funds--you mean plant capital?

[Answer] Not just plant capital, which only makes up 60 percent of it. The rest is what we earned during the period that our bank has been functioning. A large part of the profits in convertible currencies are added each year to the reserve capital. Thus our own funds grow each year.

[Question] What operations does this profit come from?

[Answer] From various operations on the international currency market: deposits, credits, commercial paper. There are many such forms. I have named only the most important.

[Question] I understand that in this area the IBEC operates on the same principles as all other banks.

[Answer] Operations in convertible currencies are based on purely commercial principles. We use forms and methods which have been established in international banking practice. But our policy is different. We do not try to make a profit at the expense of member-countries. Our goal is to grant them credits under the most favorable conditions and for optimal periods, so that a given country can repay the credits granted to it in a manner which is not unduly burdensome to its economy.

[Question] Does IBEC continue to operate with gold?

[Answer] Not anymore. We gave this up because price fluctuations on the market were too great. We did not want to risk our funds, our capital in gold. However, we conduct operations in the currencies of various capitalist countries: Dollars, pounds, yen, West German marks, Swiss francs, and also in ECU, i.e., European Currency Units, used by the EEC.

[Question] How large are these operations?

[Answer] When converted, they amount to approximately \$200 billion annually. We have 300 correspondents--large, reliable capitalist banks, with whom we collaborate in these operations. These include British banks, West German, French, Japanese, Italian, Austrian and Finnish. At one time we conducted very extensive operations with American banks. But when the US administration began to apply a credit boycott and other forms of restrictions we greatly



reduced the scope of our collaboration with their banks and we are getting along very well without their services.

[Question] What is the source of the funds used to cover reduced interest rates on ruble credits granted to the economically less-developed IBEC countries, such as Cuba, Mongolia and Viet Nam?

[Answer] Generally, the interest rates on credits granted by us to CEMA countries are very low, the lowest in the world. The interest on term credits, depending on the repayment period, is 3 to 5 percent. On the accounts-settlement credits it is 2 percent. The three countries named obtained credits carrying interest rates of 0.5 to 1 percent. These reductions are financed entirely by us out of profits on operations in transferable rubles.

[Question] What credits has Poland obtained recently from IBEC and what is the role of the Bank in settling the Polish debt?

[Answer] Because of the economic situation and particularly its complexity early in the 1980's, Poland was not able, and is still not able, to fully repay its indebtedness to its CEMA partners. Our bank assists importantly by granting planned term credits to balance payments so that Poland's economic ties with its partners can develop normally. So that Polish import, which at the moment still exceeds export, can be paid for without hindrances. On an annual scale, credits for Poland make up 25 percent of the total sum of credits granted by us to CEMA countries. I would like to emphasize that recently, and especially this year, a favorable tendency has appeared, the tendency to reduce Poland's ruble debt to our bank. The basis of this tendency is the growth of export to CEMA countries due to the policy, conducted by the PZPR, of increasing Poland's share in the socialist international division of labor.

[Question] Poland also owes free foreign-exchange to the IBEC.

[Answer] Our bank is also involved in matters connected with the settlement of this debt. Debt repayment was postponed to a later period in order to make it easier for Poland.

[Question] You came to Warsaw to participate in a regular meeting of the councils of both CEMA banks--IBEC and the International Investment Bank--taking place this time in Poland's capital. In reporting on this meeting, our press wrote that now the focus of IBEC operations is shifting from accounts-settlement services to the collection of funds and allocation of them for the financing of joint ventures ensuing from CEMA cooperation programs. On what, specifically, is IBEC's participation in the financing of these ventures based?

[Answer] Some very important decisions were made at the Warsaw meeting pertaining to IBEC's activities during the present 5-year plan. It was determined that the basic present goal of these activities is to promote economic integration and the development of new forms of cooperation, such as direct ties between enterprises, or the creation of joint enterprises. The



implementation of a comprehensive program of scientific and technical progress to the year 2000 is another very important task. The Bank has the necessary funds to accomplish these tasks, and the documents defining the scope and form of its activity make this organizationally possible.

[Question] Will the nature of the Bank's operations change in connection with this?

[Answer] The instruments which we have can be adapted to the new forms of cooperation without any special effort. But obviously we should change some methods of our work so as to come closer to the area of operation of joint enterprises or the organization of joint ventures. These are questions of a practical nature. I can generally say that our statute and normative documents permit us to take a very active part in financing the new forms of cooperation.

[Question] Is it possible that enterprises will be able to obtain credits directly from IBEC?

[Answer] We can give credit and financial assistance to state enterprises through fully-empowered banks in the particular countries; the Commercial Bank in Poland, for example. We will make the necessary funds available to the Commercial Bank in transferable rubles and this bank will then be able to cooperate directly with the enterprises. It would be very difficult for us, as an international bank, to work directly with national enterprises. The fully-empowered banks have much greater possibilities in this respect. They can offer practical, daily assistance and also establish the necessary controls so that the funds can be utilized efficiently. We, on the other hand, can cooperate directly, through credit and accounts-settlement services, with international economic bodies, with joint enterprises, and participate in the implementation of joint ventures.

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## CONSTRUCTION OF URAL GAS COMPLEX DISCUSSED

Bratislava SMENA in Slovak No 255, 1986 pp 4-5

[Interview by Imrich Demovic and Eva Zelenayova: "In the Land of Dry Salt Lakes"]

[Text] The Ural Gas Production Complex in Karachaganak, which is thus far the most extensive foreign construction project in the history of the CSSR's construction industry, is scheduled for completion in 1995. It is one of three integrated constructions in the USSR. Its principal contractor is the Engineering Enterprise in Brno; major suppliers are the Vitkovicke Stavby [Vitkovice Construction Company] of Ostrava and the Pozemne Stavby [Surface Construction] of Nitra. Karachaganak is a small village located near the town of Aksay in northeastern Ural Oblast in the Kazakh SSR, 2,500 km from the CSSR. It is situated on the right bank of the continental divide, the Ural River. Part of the complex consists of residential and public buildings, an industrial base and engineering facilities, including a water main, sewage purification plants, and communications and railroad systems. According to geological survey, the site contains more than 500 billion cubic meters of natural gas. The construction of the Ural Gas Complex "all the way to the finish" will ensure us substantially greater supplies of energy than originally projected in conceptual estimates for the Eighth 5-Year Plan and for an extended period thereafter. We discussed the progress of the construction, its organization, investments, planning, and supplier-consumer problems of this important integrated project with the editors of MLADA FRONTA and representatives of the contracting companies of the SSR Ministry of Construction at a round table in the editorial offices of MLADA FRONTA. The participants were: Eng Julius Kinka, deputy minister of construction of the SSR; Eng Josef Homola, operations manager for foreign relations of the sector for metallurgy and technology of the Vitkovicke Stavby national enterprise in Ostrava; Libor Wszolek, chairman of the SZM [Union of Socialist Youth] enterprise-wide committee in the Vitkovicke Stavby national enterprise in Ostrava; Oliver Eder, director of the Aksai plant in the Pozemne Stavby national enterprise in Nitra; and Eng Koloman Vitko, manager of the department for planning and coordination of the Ural Gas Complex in the Pozemne Stavby national enterprise in Nitra.

[Question] On 5 July 1986 the first 25-member work team from Pozemne Stavby in Nitra departed for Karachaganak by train to Moscow, then by an airplane to Orenburg, and finally by a helicopter to Aksay. Aksay, a district town of

11,000 residents, will be the center of the Ural Gas Complex and have more than 150,000 residents. What were your first impressions from that town?

[Oliver Eder] Personally, I was pleasantly surprised by the local color and by the landscape. When I saw such a stretch of land, I thought that here we should not run into any difficulties with land appropriations, but I was wrong; even there land preservation commands considerable attention. I was especially eager to see the salt steppe. I could not imagine what it was like until a sand storm with a dry, hot wind began raging.

[Question] Precise figures and data of the budget for the construction are not yet available. At this point the Research Institute for the Fuel and Energy Complex is about to submit them for consideration to the federal government. However, just for comparison....

[Eng Julius Kinka] In terms of planning, the integrated projects represent exports of capacities over two 5-year plans. They will ensure for the CSSR's national economy 5 billion cubic meters of gas over a 10-year period, which may be extended over the following 10 years if we meet the timetable for the construction. In the USSR we shall complete works in the value of Kcs 42 billion, of which about Kcs 5 billion for comprehensive housing construction in Aksay.

[Question] Residential housing and public facilities will be built by Pozemne Stavby of Nitra. The scope of those construction works is enormous, amounting to almost half of all construction works to be delivered....

[Eng Julius Kinka] Indeed, it is the focus of considerable interest. The Vitkovicke Stavby of Ostrava are undertaking the construction of industrial facilities which are located about 25 km north of Aksay, and also of engineering facilities, the water main, a purification plant, roads and a railroad. The newly founded Engineering Enterprise of Brno met most successfully its task as the principal contractor.

[Oliver Eder] The volume of works is really extensive. Without mutual assistance individual enterprises would hardly be equal to their planned tasks. At present 9 enterprises are already operating in Aksay. Anton Rysavy, an expert from the Engineering, is in charge of coordination. I wish that were the case in the Simex foreign export enterprise which is in charge of deliveries of machinery and equipment.

[Question] Some time ago Eng Karol Kaldarar, director of the department for export construction works of the SSR Ministry of Construction, noted that it was a mistake that the Simex foreign export enterprise had not set up a branch in Bratislava....

[Oliver Eder] That has been a source of problems for us. Let us take, for example, the payroll. Instead of one person bringing it to Nitra, 40 individuals must travel all the way to Prague.

[Eng Julius Kinka] This year the most important task in Aksay is to establish a base to house the employees of our enterprises. Nevertheless, in this 5-year plan construction workers are supposed to build and complete for occupation 3,000 housing units and in the Ninth 5-Year Plan another 3,400. The first 10,000 square meters of residential premises will be completed for occupation in 1987 and 30,000 in 1988. Our Soviet clients are still working out the details of their housing requirements and raising the number of units.

[Question] Are our capacities sufficiently prepared for that?

[Eng Julius Kinka] The problem is that they are not, because constrain on our capital investment in the CSSR. In the Eighth 5-Year Plan the SSR Ministry of Construction will participate in capital investment with works worth Kcs 10318 billion; to that we must add exported construction works in the value of Kcs 11.1 billion, of which integrated construction programs amount to Kcs 9.5 billion. Converted to the number of workers, that is an enormous amount of works. Our construction industry has 140,000 employees, of whom 6,500 to 7,000 will be working in the USSR before the end of the current 5-year plan.

[Eng Koloman Vitko] The Pozemne Stavby of Nitra employs 9,000 workers. Every year about 1,000 of them will work on construction in the USSR, which means that almost all our workers will do their stint there.

[Eng Josef Homola] The Vitkovicke Stavby of Ostrava employs about 4,800 workers, 2,900 of them laborers; 1,600 construction workers will join in the works in Aksay. People are asking us when they would leave, but so far we cannot tell them exactly because in terms of preliminary works, this construction project is in the openwork stage. Even Soviet deliveries have not been determined; sources of energy, water, electric power and gas are lacking, although construction works have already begun.

[Eng Koloman Vitko] Naturally, in such a situation decision-making and management tasks are difficult. Experts are still studying the plans, although we have laid the cornerstone 3 months ago. This is no simple matter because only one year ago we had no idea what would be ahead.

[Question] Our construction industry must pass trial by fire, at least it seems so if we consider the amount of works and the construction deadlines. Old practices and shortcomings must be cast aside. How does the construction look to you from this perspective?

[Oliver Eder] Here one cannot improvise. By the time we arrived with the first group in Aksay, three of our employees had already prepared in advance everything necessary for the construction to start; of course, it was done on the basis from preliminary documentation because, as we mentioned, the construction project is still waiting for approval. We arrived on Thursday; Friday we began the construction and on Wednesday we were moving into the first Vakhta--a pre-fab dormitory for 19 persons--even though there was no heating and no water. Water poses a real problem because it has to be brought to the site in tank trucks.

[Eng Julius Kinka] The relations of partners in the USSR investment process are rather complex, just as they are in our country. In Karachaganak five different clients are involved in the construction, which considerably complicates the situation. Our first teams which have gone to the USSR have experience and know how to cope with frustrations and emergencies. Of course, the construction has deviated from original plans; what is even worse, most machinery is still on the draftboard. Machinery sent by our enterprises to the USSR before 15 August comes from the enterprise base. A Czechoslovak delegation led by Vlastimil Ehrenberger, the CSSR minister of fuel and energy, and representatives of the USSR state agencies visited Aksay in the second half of September and made a favorable and optimistic assessment of the current situation of construction works. Nevertheless, we cannot be fully satisfied. Winter is almost here and we anticipate problems with heating, as there are no boiler rooms. The electric power generated by auxiliary systems is of low capacity. The construction site is supplied by a TV relay station.

[Question] Despite all problems, it seems that the integrated construction project was only yesterday a topic of discussion, and today everybody is busy at work there...

[Eng Julius Kinka] The truth is that Aksay was not considered among projects of the Twelfth 5-Year Plan, and thus, there has been no general construction plan for the town of Aksay, nor are there any definite ideas about the site for the construction of a gas purification plant. The construction still follows our plans. The construction of a prefabricated panel factory is planned, but its capacity and technology have not been determined to this day. Such a lack of preparedness has tied up our hands. The trouble is that the regulations for our capital investment differ from the Soviet ones. We are being held up by the need to locate supplies of water, electric power and gas for the construction. This has raised the costs. Although this situation had been anticipated and although plans are now being corrected, we realize that we cannot meet the volume of Kcs 2.2 billion in 1987. We presume that the amount will be approximately Kcs 1.7 billion, however, we must fulfill our 5-year plan.

[Eng Koloman Vitko] Next year we shall complete the first 200 housing units and at the same time, we shall build the base and the building yard. We are using our own technology for the construction of public facilities and the technology of the industrial monolith for housing construction.

[Question] You indicated that the success of the construction works depends on flawless consumer-supplier relations which in this case are formed by several enterprises and organizations. What is the situation in terms of supplies for the construction?

[Oliver Eder] There are enormous problems with gravel which has to be imported.

[Eng Koloman Vitko] As for supplies from the CSSR, we feel that we have met our tasks quite well. Thus far we have dispatched about 350 carloads of materials, machinery and mechanisms for the construction. I may add that the Pozemne Stavby in Nitra keeps a continuous flow of deliveries.

[Eng Julius Kinka] Until recently both mixing plants intended for Karachaganak, for the Vitkovicke Stavby and the Pozemne Stavby were on exhibit in the trade palace in Brno. Import commissions did not approve the machinery of the enterprises until July, but there was no expert opinion, so we still do not know exactly what kind of technology we shall get.

[Eng Josef Homola] Thus far about 8 percent of the machinery from the technological base of the Vitkovicke Stavby have arrived in the USSR. The flow of supplies is hampered by their transportation. Some machinery for Karachaganak is on the road as long as 3 weeks and it takes another week before it can be set up for operation; thus, it cannot be used for as long as 2 months.

[Eng Koloman Vitko] The original idea was to dispatch whole trains to the USSR, but one train is made up of 40 cars or so, and if all supplies are not available at the same time, we cannot fill it up.

[Oliver Eder] Transshipment is another headache. Sometimes a set of machinery travels for a whole month to its destination. Also, occasionally it gets astray, particularly bulky machinery or equipment which must follow a different route than regular freight.

[Eng Josef Homola] Such a train often returns to its destination as many as three times.

[Eng Koloman Vitko] We expected that cars would be reloaded on our territory, but they are unloaded in the USSR and so we have no control over transshipment. Not every station has the facilities to transfer all the goods we are sending. Whole trains are reloaded in parts, each type of goods in a different station, and thus, individual cars sometimes get lost.

[Eng Julius Kinka] It would be wrong to discuss shortcomings that are beyond our control. Above all, we must inform employees of our enterprises about the developments and the needs on construction sites abroad. Much depends on that. For example, some people on the construction site may find it difficult to understand why there are no nails available for a whole month, which actually happened.

[Question] This year our construction workers will have to cope for the first time with far harsher winter conditions than in our country. How are they getting ready for that situation?

[Eng Koloman Vitko] We are counting on the so called rotation according to which the annual program for rough construction must be completed in 9 months--as compared to 11 months in the CSSR--because the technology of the industrial monolith cannot be operated at 40° Celsius below zero. We lack such experience.

[Oliver Eder] It is a fact that we cannot accomplish much in the freezing weather with the north wind blowing over the construction site.

[Eng Julius Kinka] Integrated construction programs are scheduled for 13-week cycles followed by 3-week furlough. Workers on construction projects are already demanding 21-week shifts so that they may stay longer at home during Christmas holidays. This suits us fine, but still, we must work even during the winter season. The climate in Karachaganak requires machinery specially adapted for winter, for example, the Vitkovicke Stavby will get a double-coated concrete pump.

[Eng Josef Homola] And a transport container.

[Eng Koloman Vitko] Yes, but that will be imported. Our engineering industry does not manufacture machinery with such adaptations. For instance, the Mostarna [Bridge Plant] in Brezno which manufactures tower cranes guarantees failsafe operation only up to 12° Celsius below zero. Otherwise there should be no problem with stacking cranes and with the Tatra vehicles which operate well in inclement conditions. We are worried about the effect of harsh winter weather on hydraulics.

[Question] How many Czechoslovak experts are now involved in the construction?

[Oliver Eder] In Karachaganak there are 84 persons from the Pozemne Stavby of Nitra. More workers will be gradually added as needed.

[Eng Josef Homola] Another work team will soon leave Ostrava. Until early October we had 126 individuals in Karachaganak, with more workers arriving on each chartered plane.

[Question] Construction workers in the Krivoi Rog Integrated Mining and Processing Works in Dolinskaya and in the Progress Gasline are far ahead of the workers in Karachaganak. Youth organizations have been founded in those two construction projects and their members are sponsoring several programs, for example, the building of compressor plant No 37 in Bar. How is the situation developing in Karachaganak?

[Libor Wszolek] Aksay is a special case because it is situated in Asia. Such a small town does not offer ample and varied opportunities for entertainment in one's free time. About half of our 126 workers are under 35 years of age. We think that before the end of this year we shall organize in Aksay a construction-wide committee of the SZM [Union of Socialist Youth] which will organize our young people's work efforts as well as their leisure time on the construction site.

[Oliver Eder] Few of our people in Aksay are in the SZM age range. Thus far we were sending to that site mostly our most experienced workers. Next year whole teams will be coming to work on the project and among them will certainly be some young people. On the basis of my impressions I daresay that Aksay will be very interesting for the young and not so young, and not only in terms of wages.

[Libor Wszolek] We see our work with young people as a challenge. We presume that on the construction site we shall organize up to 70 percent of them in

the SZM. Eng Peter Halfar, a former patrol leader of the Young People's Reflector organization who is now working as supply manager, is the leader of a small number of the Union's members.

[Eng Julius Kinka] The Union is needed and helpful on every construction. Young people's influence must be reflected not only in their achievements at work but above all, in their correct ideological perception of social needs.

[Question] We agree, but our young people's focus on systematically expanded share of the SZM members in the fulfillment of economic tasks must be regarded as the main challenge of the construction-wide committees and of the SZM organizations. This concerns, among other things, the application of progressive labor forms and methods. Where and how may our young people promote this effort?

[Libor Wszolek] While planning documentation is lacking, we cannot very well inform our contractors about all requirements of the construction. In this 5-year plan we are supposed to invest Kcs 4 billion, but thus far the plan has not justified it. Our officials in charge can only estimate sub-deliveries. I think that precisely here the space for the SZM's initiative is wide open.

[Eng Koloman Vitko] The construction cannot make much progress without other partners' assistance. Manufacturers on whom we depend often use their plans as their argument. If we regard integrated construction as something more, in every case something of particular importance, our suppliers must come to understand it and act accordingly. The SZM organization in contracting enterprises are thus offered ample opportunities to prove their mettle.

[Oliver Eder] Manufacturers of windows, housing modules, hygienic facilities or plumbing equipment must do as we do--reach for their untapped resources.

[Libor Wszolek] There is no lack of good examples; for instance, when the management of the enterprise could not come to an agreement about economic policies concerning higher production, the SZM members discussed the problem and helped resolve it. When construction workers from the Ostravsko-Karvinske Doly [Ostrava-Karvina Mineworks] on the Progress Gasline urgently needed special pipes, the SZM members in the NHKG [New Metallurgical Works of Klement Gottwald] made them in their free time within 2 weeks.

[Oliver Eder] The main thing is to give them such reliable support everywhere in our country. That is the best boost to those who have to labor under difficult conditions and to give up various advantages on integrated construction projects abroad.

[Libor Wszolek] We are encouraged by the experience from Dolinskaia where even those who back home could not find their way to the SZM are now joining the organization.

[Eng Koloman Vitko] The most urgent task these days is to build the central dormitory with all conveniences--cultural and sports facilities, something like a camp for our construction workers. Before May 1987 we shall have 2,000



beds ready. We are worried that we shall need many things to get that done, therefore, this is another opportunity, for example, for patrol members of the Young People's Reflector.

[Question] Naturally, the SZM leadership is focusing attention on the participation of the SZM in integrated construction projects. Agreements on cooperation and joint venture are gradually being concluded by the SZM Central Committee and principal contractors for individual projects. Such agreements have been concluded by the SZM Central Committee with the Transitni Plynovod [Transit Gasline] communal enterprise in Prague, the CKD [Ceskomoravska-Kolben-Danek] sectoral enterprise in Prague, the Vystavba Ostravsko-Karvinskych Dolu [Ostrava-Karvina Mine Construction] communal enterprise in Ostrava, and now an agreement with the Engineering Enterprise of Brno is being drafted. What do such agreements involve?

[Eng Julius Kinka] They contain statutes for the SZM's successful organization of operations directly on the construction site and in the enterprise. A central control patrol of the Young People's Reflector will be appointed for the construction project and criteria will be set for socialist competitions "Young Builder of Integrated Construction" and "Exemplary Youth Team of Integrated Construction." The International Youth Soviet, for instance, is already active in the Krivoy Rog Mining and Processing Works in Dolinskaya.

[Libor Wszolek] The SZM Central Committee is considering the possibility of summer programs for voluntary work teams from the USSR's schools to participate in individual projects according to the demands of principal contractors and to the needs of the construction projects. This is really an interesting idea that would enhance the international character of the construction. The above-mentioned agreements include the planning of the SZM's sponsorship of certain comprehensive parts of individual construction projects; another important aspect is that young experts will be appointed for long-term assignments in the SZM Central Committee to coordinate cooperation between the contracting organizations and the young industrial workers' department at the SZM Central Committee and to participate in survey of the construction. This will help effectively deal with existing problems.

The distant land of Kazakhstan with its salines, dry salt lake bottoms, its peculiar climate and local color, has already become a temporary home for hundreds of our construction workers; later it will be a home for thousands of them. In a few years this project which will benefit both partners will extract from the bowels of the earth the first cubic meters of natural gas. Before that comes to pass, much water will flow down the Ural River many construction workers will have to toil hard in the sweat of their brows. Young people from the Pozemne Stavby of Nitra, from the Vitkovicke Stavby in Ostrava, and from the Pozemne Stavby in Ostrava, the Priemyselne Stavby [Industrial Construction] in Gottwaldov, the Priemstav [Industrial Construction] in Pardubice, the Dopravne Stavby [Transportation Construction] in Olomouc and machine engineering contractors will be among those who will leave their mark on this important project. There is no doubt that this great opportunity enables us to prove how much we can achieve with labor initiative methods promoted by SZM members and with our program of political organization. Let us hope that publications for our young people will print on their pages only good tidings about their endeavor and describe our young people's exemplary accomplishments and above all, that they will promptly and effectively react whenever necessary.

## FUTURE OF COMPUTERS, USERS DEBATED

Prague HOSPODARSKE NOVINY in Czech No 47, 1986 pp 8-9

[Roundtable Interview by Miroslav Kana and Jiri Sekera: "User in the Role of a Suppliant"]

[Text] Computer technology has become commonplace in our national economy. We are learning that it is not omnipotent and that it cannot resolve all the problems of our conceptual search for new ways of social development, but by the same token, we realize that without this unusually effective aid we could not function in many areas of our life. We are getting acquainted with the demands which it makes on the quality of its maintenance, and we must admit that thus far we have not been able always and everywhere to use its enormous advantages efficiently. Therefore, it often failed to meet our initial expectations: in terms of the savings which computerization was supposed to bring, and of the acceleration of our work process. Where can we find the cause? Many letters and contributions to this topic coming to our editorial offices are not hesitant to criticize the technology delivered to the users, its complexity, capacity, terms of its delivery and also general concepts of computerization of our national economy. We contacted specialists who confirmed that many of these objections are indeed legitimate, although there are many reasons why the use of technology has been lagging behind its potential.

In our discussion of computer technology we stuck this time to material issues. As representatives of the large community of users we invited Eng Josef Mica, technical manager, and Eng Vasil Ivanov, ScC, consultant to the director of the Enterprise for Computer Technology in Prague; Eng Jan Mikyna, enterprise director, and Eng Josef Hermann, director of the operations department of the Foreign Trade Mechanization Center, Prague; manufacturers were represented by: Eng Josef Kveton, ScC, university lecturer, manager of the department for development, and Eng Zbynek Vacha, chief manager for trade policy of the Automation and Computer Technology Works, VHJ [economic production unit]; and Eng Josef Sulc, deputy sectoral director of the Federal Ministry of Electrical Engineering.

## It Is an Extremely Long Process

[Question] What today bothers our consumers and thus also the users of computer technology?

[Mikyna] Our technology which some years ago we used to procure abroad has not reached the height of its potential. Therefore, we have to deal with the conceptual replacement of computer technology. We are focusing on computers made in the CEMA countries; we opted for the EC 1027 system. However, from the moment when we began to make demands for new computers we began to learn gradually when an unusually complicated and lengthy process this is.

[Question] Let us be specific: does it mean that the terms of delivery are excessive?

[Mikyna] A specific configuration, with a term of delivery and a model guaranteed by the supplier, is decisive for an order of a computer system. More than 50 organizations are involved in foreign trade. Their demands for technological equipment are related to specific commercial operations and cannot be expressed in general terms.

For example, we were thinking about installing a computer system before the end of 1984; that was our first problem. Had that come to pass, today we would have acquired specific knowledge of the whole range of services which this system may provide for foreign trade; we would have learned whether it is appropriate for this particular field, what else is needed, how to resolve the problems of computer networks, and so on. We would now be able to determine which part of commercial operations may be served by this equipment. However, we still cannot resolve that problem, and our original latitude for our decision-making has shrunk considerably.

[Hermann] In order to guarantee the maintenance of the achieved standard of automated data processing in foreign trade, such technology and program equipment must be introduced that will in particular further intensify modern methods of interaction in processing and efficiently allocate part of computer capacities to their users. In this conjunction there are rising demands both on the quantity and reliability of the new computer system and its accessories, such as software, data bank systems, additional capacities, reliable external and internal memory and also, a sufficient number of terminals. This is a conglomeration of problems with which we must come to grips before the first computer system EC 1027 is installed and especially before any decisions are made about the further large-scale introduction of these systems in our ministry. I must stress that the manufacturer has not provided us with adequate data to enable us to reach an informed decision.

[Ivanov] The comrades here have expressed certain demands on computers in terms of the needs of their organization. Being involved in the programs for the development of our enterprise, I must note that from this perspective the offer of computer technology is for us insufficient; its volume and assortment are quite inadequate for responsible and comprehensive planning of the 5-year plan.

[Mica] We, too, would prefer to opt for the best possible choice, but the available computer technology does not offer us such a selection. We must realize one fundamental fact. At this particular time many organizations must proceed from batch processing of mass data to interactive processing. At

present partial conditions have been provided for that in our country due to the development of a computer system that makes this interaction possible; nevertheless, that system is not available in required configurations and the offered assortment is insufficient. Being a service organization, the computer for us represents in fact a means of production. Therefore, we cannot use incomplete systems that do not permit us to meet the demands of our enterprise and of our consumers. For instance, the range of external memory media for the EC 1028 and EC 1027 computers is quite unsatisfactory. There is no disc memory. Understandably, the shortcomings in deliveries are reflected in the fact that we cannot use computer systems efficiently and avail ourselves of the opportunities offered by computer generation 3-1/2. We are forced to accept inferior reliability, which again raises the demands on the supply of the peripherals.

[Question] For example, how do your needs differ from offer and supply?

[Mica] I shall use computer EC 1027 as an example. We need immediately discs with the capacity of 800 to 1,200 megabytes. This year the supplier offers only 400 megabytes. Because of lower reliability and shortage of spare parts, nearly 100 of those megabytes are almost continuously inoperable and thus, we have at our disposal 300 megabytes, of which at least 40 percent will be pre-empted by the operational system and application programs. That is completely insufficient.

#### Search for Ways to Pay Off Debts

[Question] Well, the users have stated their problems. Perhaps the manufacturers should now end their silence and tell us their position.

[Kveton] I should like to start with a rather general observation. Significant changes are taking place in the strategy and structure of development on the basis of the "Comprehensive Program for R&D in CEMA Member States to the Year 2000." Main concepts for the development of technological structures have been formulated on this basis. For instance, a supercomputer with a speed of 10 billion operations per second, with up to 100 megabyte internal memory, and with information flow of 300 megabytes per second should be developed in the CEMA countries. The category "The Unified System of Electronic Computers" is supposed to handle 1 billion operations, and mini- and micro-computers 5 million operations per second. Those are no pipe dreams. Agreements on such programs as these are being concluded this year; before the end of the Eighth 5-Year Plan such systems will be designed in the CEMA states and become available to all countries. It is presumed that in the next stage personal computers will diverge from the current model and advance to the category of personal computers that will be better adapted for operations and for the component base available in the CEMA states. This project should be completed before the end of the first quarter of 1987.

[Question] This is in the future, which, naturally, is of interest to us, but as we have heard, the users have to deal here and now with extremely urgent problems.

[Hermann] I would like to illustrate this with another example. From the basic decision on gradual introduction of the EC 1027 computer system (in 1983) foreign trade has regularly demanded allocations of those systems and of requirements projected for the next 2 years. We focused our demands on the 1984-1987 period when outdated systems should be gradually replaced. According to all available information, during that period the EC 1027 computers should have been regularly delivered, but to this day we have not received the EC 1027 computer system and we have practically no experience with it. By the same token, we have to make a decision about the installation of other computer systems of that particular series to replace other obsolescent computer, in many instances no later than in 1987.

The period of one year is a minimum for adequate preparations for the introduction of a new computer system. Due to delays in deliveries we are facing a serious situation which may lead to major difficulties for our foreign trade organizations as regards the fulfillment of their export and import tasks. The replacement of computer technology should be expeditiously resolved in a way that would at least maintain the already achieved standard of works and services.

[Sulc] In the Seventh 5-Year Plan we delivered Kcs 12.6 billion worth of computer technology to Czechoslovak enterprises. That is more than the State Commission for R&D and Investment had projected in its concept. In the past 5-year period computerization was characterized by a transition from centralized systems to decentralized computers installed in managers' offices; this policy will continue also in the Central Mechanization Office of Foreign Trade and in the Enterprise for Computer Technology. These trends are reflected in the increasing numbers of delivered units; at the beginning of the Seventh 5-Year Plan, there were scores of them, while at the end of that same 5-year plan there were hundreds. The transition from batch processing to remote computer networks means a totally different philosophy of operation, which has caused much anxiety for persons responsible for central technology - hardware. The center used to be closed, with a certain number of employees under the same management; the organization of its operations differs in every respect from instances where individual parts of the system are located at a distance of dozens or hundreds of kilometers.

[Question] It is fine and well to know this, but it seems that the debts of the manufacturers of computer technology are far more pressing.

[Sulc] I mention these problems because they are related to the changes to which we must get adapted. Let us take, for example, a configuration of computers where a fundamental change is taking place. On the one hand, there are central computers, and on the other, terminals. The situation with the terminals is precarious, and Comrade Mica is 100 percent right -- we are not meeting their demand. The matters have gone so far that recently top officials of our ministries met to discuss them and to adopt certain measures, such as to transfer part of the manufacture of displays to consumer electronics enterprises which are capable of mass production. We expect that this will substantially expand the production of displays. That is one step; others involve imports. We are looking for a way out from this unpleasant and very difficult predicament. We envisage some results in 1988.

[Kveton] In order to produce many good computer systems, we need a component base, areal contacts, testing facilities and extended trial runs for computers. Their reliability may be enhanced by good seasoning, screening and more thorough output control. First, the shortage of parts, which is also evident in other CEMA countries, limits the production of computers, and secondly, it leads to irregular production. As compared with advanced states, the technological standard of our production is inferior. We turned the Zbrojovka [Arms Factory] enterprise in Brno, the manufacture of precision mechanisms with an excellent tradition, into our main production of peripherals. The manufacture of floppy discs in Zbrojovka is characterized by its annual standard output of 10,000 units; however, elsewhere in the world annual production below 100,000 to 150,000 would be regarded as inefficient. The same applies to the limited assortment of printers. If we were to achieve such a level with more or less the same number of employees, we would need technological equipment that, unfortunately, is available neither in our country nor in the CEMA. Each of those programs must be imported to the tune of Kcs 100 - 200 million all charges paid.

We have proposed to our ministry, the State Planning Commission and the State Commission for R&D and Investment that the production of two lines of these peripherals be substantially expanded by means of imported technology. One must bear in mind, however, that some of Zbrojovka's facilities are already a century old. New facilities must be built because even the masonry is crumbling down there. Furthermore, we need technological equipment for the Artima in Prague. The underlying problem -- expanding the volume of our production -- involves the component base; it does not seem that it will be completely resolved during the current 5-year plan.

#### Consumers Have Big Eyes

[Question] Well, electrical engineers are promising to resolve these problems in 1991 or so. Comrade Mica says that even now they are not quite able to meet their tasks. What should the users do in such a situation? It seems that they are playing the role of supplicants.

[Sulc] In general, we are meeting 75 percent of the needs, and this will continue through the whole Eighth 5-Year Plan. The situation is not so bad with the supply of large systems, but with smaller units it is not good, not so much because of the production capacity of central units but mainly because of the disproportion in final assemblies of the peripherals. And finally, a major problem here involves also the number of computers in operation. At present the value of computers deployed in the CSSR is about Kcs 31 billion and of all devices of computer technology Kcs 34.5 billion. In 1980 all devices of computer technology were worth about Kcs 22 billion, of which computers Kcs 19 billion. The question is, what has that brought us.

[Question] That is a fundamental question indeed. After all, one cannot demand new equipment regardless of the opportunities for an efficient use of the system already in operation and regardless of the ways of its actual utilization. That has not earned much honor for the users.

[Sulc] It was projected that in the Seventh 5-Year Plan the installed computers would bring us savings of approximately 300,000 employees; however, the numbers of administrative personnel are up. I do not want to draw any simplistic conclusions, but those Kcs 31 billion in question must have some effect on the efficiency of our national economy. If we ask the users about actual effects of computerization, they are usually unable to quote exact figures; in most cases they refer to the changes in quality.

[Ivanov] I am sure that we could find users who can specify the consequences that would follow if they would not receive the required equipment on schedule.

[Vacha] It is our experience that in the final analysis these projects generate only 20-30 percent of their planned effect. Thus, we may ask whether it makes any sense to manufacture the equipment under discussion and whether the problems should not be reassessed, other solutions sought and different technical and organizational approaches used. Large computer systems are frequently demanded at any price only because their delivery is included in the conceptual program or in the investment plan. If the needs are reviewed, they may be changed and instead, some small, inexpensive, easily operated equipment may be selected. We do not have many of such devices, either, but they do not require very complex and laborious operation.

[Kveton] As for technical parameters, a unified system of electronic computers satisfies the needs of most of the users. One may say about the System of Small Electronic Computers that their line is so crowded -- and here I mean models of processors and computer systems -- that it can fulfill the users' demands. However, when it comes to meeting the needs and deliveries of required configurations, the possibilities are another story. The greatest drawbacks are the peripherals. Above all, high capacity memories for the Unified System of Electronic Computers are not available. The volume and quality of imported memories are inadequate. These shortcomings forced the consortium Automation and Computer Works to limit its production of computer systems. In addition, the System of Small Electronic Computers has problems with mosaic printers, floppy discs and magnetic tapes. The bottom line in the development of computerization today is the escalation of our domestic production and more imported peripherals. Nevertheless, every CEMA state is offering primarily computer systems, while peripherals are in short supply, or they must be bartered -- you scratch my back, I scratch yours -- and their production line is closely guarded.

[Sulc] I am convinced that the leading trend in our country will be the introduction of small computers in order to make basic information available to specific experts. This is evident, for example, in the situation of the staff in computer centers. In the 1980-1985 period the number of workers per computer dropped to 40 percent of its initial value. In the final years of the Eighth 5-Year Plan thousands of computer units will be deployed without adding thousands of computer operators and technicians. By coincidence you speak here for organizations that will continue to acquire primarily large computers, but that will not be a general rule.



## What Is in Our Power

[Question] We have heard that not even the focus on small computers can encourage much optimism that the users' needs will be met.

[Sulc] We really cannot make any such promises, although we are adapting our production to that end. Even as concerns the PC's and their components, the situation today is not promising. Moreover, we must bear in mind that major central computers with high capacity memory will still be needed in the future, especially as a data base will be gradually developed. The data base often serves jointly several users who are not mutually acquainted and who are linked with the data base. We must resolve this link as well. The problem is that, in general, conditions for the fulfillment of this future trend will be developed only after 1990. Routine digital information transfer will take place sometime after 1991 or 1992. We shall struggle not so much with shortages of modems as with the capacity and quality of the networks; somehow that escaped us. The effort to turn the corner encounters many obstacles stemming objectively from the CSSR's economic development and specifically, from the development of communication networks and of potential cooperation with other CEMA countries, because communication technology is being developed and manufactured in far-reaching international cooperation.

[Ivanov] It is more accurate to say that something was left undone rather than that something has "escaped" us. Who was supposed to do it? I think this also is a task of the Ministry of Electrical Engineering. As we have heard -- the hopes for its prompt solution are rather tenuous. As for the change in the approach to computer technology, none of us -- theoreticians, manufacturers, users and organizers of computerization -- have fulfilled our tasks. Moreover, computerization has been generally forgotten. This is an important independent field which should be subject to a state-wide methodological control and coordination, particularly in matters of planning and programming. One may say that the level of cooperation in this field is low. Relations between individual ministries, the Academy of Science, research institutes, production and consumers have not been coordinated. Consequently, the models, outputs and functions of computer elements introduced into operation are diverse and it cannot be expected that they would efficiently meet their users' anticipations.

[Mica] It is one thing to explain the problem, and another to solve it. I assumed that the whole introduction of the 3-1/2 generation of computers in our country had been organized by some conceptual method and that it had been integrated with the plan. We are introducing EC 1027 systems without having sufficient supplies of technological aids to ensure success for their distant users. We have no remote terminals, despite the assumption that they would be manufactured in our country. Not even imports of those terminals have been ensured; we have no modems, no transistor circuits and no telecommunication equipment for the users' connection with the computer center.

[Sulc] As I noted, our deliveries in the last 5-year plan exceeded initial estimates and demands and thus, all the shortcomings notwithstanding, we are somehow able to keep in step. However, I will admit that we are also aware



aware that economic resources on hand are limiting in advance the required volume. If we compare the number of our citizens with the number of computer terminals, the CSSR's record is not exactly glorious, and the trend is declining even further. The goal for the Eighth 5-Year Plan is to halt this unfavorable development -- but that is very little. Nevertheless, in terms of investments, resources, and in general, we cannot afford more than that. As for you, the users, I am certain that the mutually agreed-upon allocations will be adequate for you to function as service organizations.

[Vacha] The users are adjusting to reality and getting the most from the little they have received to meet their needs. None of major computerization plans which at this moment are being drafted will be cancelled, only delayed. For instance, in the Eighth 5-Year Plan the original computerization program for certain blocs of users involved Kcs 1 billion 200 million. When we pursued this matter further, we found out that in view of their investment potential their demands may be cut substantially well below their initial claim. They cannot afford higher investments.

[Ivanov] I must repeat that there is quite a gap between the statements of Comrades Sulc, Kveton and Vacha and what we, the users, have to say. It is certain that unless we agree on the rules of the game -- what our domestic production of computer technology will supply and what will be imported -- we can keep arguing till doomsday and banging on the table, but that will not help us in the least.

Let us take, for instance, as a valid premise that we need both large and small computers and then we must now, at present, follow this strategy. Furthermore, we must realize that the planners and organizers of operations as well as the users will need some time to get prepared for computerization. Nevertheless, as it was already mentioned, the user does not know what equipment, how many units, and which accessories he will obtain. We need complete computer systems -- if we have opted for EC 1027 computers, then we have done so on the basis of properly analyzed requirements of the range and type of internal and external memory, amounts and capacities of other peripherals -- printers, terminals, multiplexes and modems. Incomplete systems without a communication environment will not be conducive to more efficient processing or more efficient application of data in management.

[Mica] Another question comes to mind: why is the assortment of the computers made in our country so extensive, while the volume of their production is limited. Several minicomputers are not compatible and therefore, not interchangeable. Consequently, they must be reprogrammed. We do not need only large, room-size computers; quite the contrary -- in many cases we plan to use minicomputers.

[Kveton] As manufacturers we may do primarily two things: to reduce the line of models, and to rationalize our production. The line is really much too diverse. For this particular topic our ministry will organize an inter-branch consultation at which every ministry will get a chance to say whether the assortment is appropriate or too large. Modem today is an interface disc or electronic panel. Our current models are technically obsolete; therefore, we are

updating them so that new models will operate at the speed of 300 to 1,200 bytes per second, which should be sufficient for our current network. We will manufacture enough modems next year -- but I must add -- only if we shall get enough components.

Again and Again: Components Are in Short Supply

[Question] Who is responsible for that?

[Kveton] We must realize that our consortium is not very large. In the past 10 years we have obtained only one enterprise for computer technology, the Computer Technology Works in Banska Bystrica, the former Tesla, which was planned and built for other purposes. This production unit follows the program for "The System of Small Electronic Computers." We have no additional facilities for the manufacture of peripherals; so what should we drop from our production plan? Our ministry is correctly focusing capital appropriations mostly on the component base. In the CSSR it is generally not possible to phase out production programs, and this rule does not apply to electronics alone. If we could acquire another engineering facility with one thousand employees, we could make a complete change in the supply of peripherals.

[Question] Yet even cooperatives are now making computers.

[Sulc] Sure, after all, a computer is basically a disc with 60 or 70 parts that can be obtained one way or another. Today even a student about to graduate from college can put together such a computer. We do not discourage such endeavors because they have led to some positive achievements; for instance, they may be effective in dealing with the problems of hobby clubs, schools, and so forth, but such computers cannot be used by professionals.

[Kveton] Our VHJ [economic production unit] submitted only one professional computer for international testing. There is a difference between personal, school, Ondra and other computers and professional PC's which thus far have not been manufactured in the CSSR. Our VHJ intends to focus mainly on the category of professional PC's. We are leaving the production of school computers to consumer electronic enterprises and manufacturers of components, if they are interested to take it up as a sideline. Professional PC's must always be furnished with external memory, either two floppy discs or a small Winchester-type hard disc, and here we are again at the shortage of peripherals. In our ministry we must carefully consider the number of parts and peripherals allocated for the JSEP and SMEP systems or PC's, the criterion being the greatest benefit to our national economy.

[Vacha] When planning the development of computerization, the fact should have been borne in mind that it would not be for free. As compared with the world, our country has invested much less in the planning of the development of computer technology. With computerization making increasing demands, we are now taking pains to come to grips with many contradictions that were completely unnecessary in the first place.

## What Other Alternatives Are There?

[Question] We are coming back again and again to the problem of components and accessories. Could we not follow the example of the countries that are facing a similar situation and span this gap temporarily by building assemblies where the final product -- the computer -- would be set up from parts procured elsewhere?

[Sulc] Last year the JZD [unified agricultural cooperative] in Slusovice delivered several hundreds of TNS systems. How do you think that system was developed? The JZD buys processors from the Metra in Blansko, peripherals from the Kancelarske Stroje [Office Equipment], and so on, then everything is assembled, debugged and furnished with software. Other organizations of this kind follow similar methods.

[Kveton] We have discussed assemblies or purchase of licenses on many occasions. There are two drawbacks. As a VHJ, we have no funds for payments, because our export to nonsocialist countries is limited. When we discussed payback with a foreign company, we were told that they could not accept it because their labor unions would complain that their workers would lose jobs. On the other hand, any manufacture based on a license today means that some special components must be imported, and here we are again at the problem of funds. There is interest in instruments, drills and cutters, but that would be economically a very disadvantageous arrangement for us.

[Mikyna] As a representative of foreign trade, I should like to underscore in this conjunction not only the need of reliable modern technology for implementation of the current and future tasks of our foreign trade, but also the objective to make Czechoslovak computer technology a lucrative export item.

[Sulc] The development of electrical engineering in the Eighth 5-Year Plan is focused mainly on components which constrain the final product, above all, the computers. In the 1980-1985 period we raised the production of components 240 percent of its previous level, which is an achievement unprecedented in all our preceding 5-year plans. Nevertheless, even at that rate the shortfall of components has risen from 8 percent in 1980 to 15 percent in 1985. For the Eighth 5-Year Plan we are again planning a 240 percent growth. All investments which the State Planning Commission raised above the original specifications for the 5-year plan were focused on components alone, but we know that the shortfall will be up from the current 15 percent to 20 percent in 1990. The same developments are noted in all CEMA countries.

[Question] We are speaking here about the nonfulfillment of consumers' needs of computer technology, about the extent to which their claims are justified, and about the often underutilized equipment available to users, and we have found that no one is satisfied with the current situation. There is no doubt that a radical solution must be sought in the production of computer technology. Still, we should like to mention in conclusion a more or less organizational and technical question related to the distribution of this technology -- in other words, how efficient and appropriate is the current assessment method?

[Mica] I would be glad to see real order in assessments because, as we have heard, computer technology will continue to be in short supply during the Eighth 5-Year Plan and must be allocated according to certain criteria. I assume that the use of computers cannot be measured only in hours of their operation but also by their contribution to our organizations; but then we really must review every single organization with respect to the objectives by which it justifies its request for the computer, and to compare them with its achievements over a certain period of time. This must be done by a supra-departmental agency which must set clear-cut guidelines for the ministries.

[Kveton] The ministry assesses the requirements of the peripherals on the basis of our proposals in this sequence: emergency measures following a disaster; our production (in order to enable us to fulfill the plan for the production of goods); next, final assemblies (in other words, users to whom computers have already been delivered and the peripherals promised); then important users (for example, for their fulfillment of mandatory tasks of the state plan), and finally, export.

[Sulc] The current assessment method for computer technology is really not in tune with today's needs. We intend to remedy this problem in 1988. The primary partners for the future user will be our professional organizations -- Kancelarske Stroje [Office Equipment] and Datasystem -- where information will be concentrated, demands assessed and potential substitutions determined. This will simplify final allocations which will in essence eliminate the controversies in supplier-consumer relations.

[Question] And now really in conclusion: what, then, may our users expect in the nearest future?

[Mica] I should like to add: we need to know a specific program for supplies for the Eighth 5-Year Plan. We are facing a situation where we are preparing and continuously modifying conceptual objectives for computerization. Year in and year out we have been receiving different information. We have been introducing minicomputers for about 3 years but it was not until 1985 that we succeeded in obtaining our first units.

[Sulc] I agree with you that the key question at this time is, what will happen in 1986 and 1987. Assessments have already been submitted to consumer branches.

We neither want nor are able to judge which arguments expressed in the dialog of manufacturers and users of computer technology carry more weight; however, one thing is certain: the process of furnishing our national economy with this particular technology cannot keep in step with the rate and quality of the growing needs of the expanding community of its users who were represented in our discussion by executives of two institutions. Although the broader ramifications affecting the current unsatisfactory situation cannot be ignored, there is one unpleasant reality -- the distressing shortfalls in the deliveries and in reliability of computer technology which should be meeting current demands.

Our discussion was not intended to rediscover the wheel but rather to bring at least a modest contribution by pinpointing the needs and to present some views on issues on what seems in general inevitable: expeditious determination of ways and means to make up gradually for all delays, to improve the efficiency of our production, and to computerize our national economy. We have the right to presume that a favorable climate for this task will be created by the restructuring of our economy, which is included in the program for the current 5 year plan.

9004

CSO: 2400/81

## CIVIL ENGINEERING COMBINES FACE SHORTAGE OF HEAVY EQUIPMENT

East Berlin BAUZEITUNG in German Vol 40 No 11, Nov 86 pp 493-5

[Article by Dipl.-Ing. Guenter Schulz, VEB engineer with the Combine for Civil Engineering and Traffic Systems in Rostock: "Results and Problems Regarding Further Road Construction Developments in the Civil Engineering Combines"]

[Text] Road construction requirements, like other civil engineering tasks, are based on national economic need. The basic direction taken by these requirements is contained in the directive of the 11th SED Congress (1) in which particular attention is paid to the central social political issue of proceeding with the housing construction program. Special tasks involving road construction are also derived from this unity of new construction, reconstruction, remodeling and maintenance.

Furthermore, it is said with regard to the development of traffic systems that maintaining roads in good driving condition requires more and more the introduction of new, material-saving technologies based on the use of national resources. Including road construction within the scope of special requirements and large-scale industrial sites in essence outlines the tasks of the civil engineering combines. As compared to last year these tasks have not changed drastically, and thus the statements made in reference (2) of the bibliography still apply today.

It must be kept in mind in this regard, however, that maintenance and reconstruction tasks are substantially larger in scale in the area of traffic systems. To what extent the civil engineering combines will be affected by this fact cannot yet be fully estimated for the current five-year plan and beyond and will also surely vary from bezirk to bezirk. Nevertheless, an attempt has been made (3) to make a prognosis regarding future mechanization policy.

## Statement of Mechanization Policy

In accordance with crucial requirements, the development and provision of more streamlined processes, and of machines and devices, must be oriented more and more toward easing imports.

In addition, ways of meeting needs using domestic resources such as those described below must also be researched:

- Internal resources arising out of more streamlined constructed processes in the civil engineering combines as a result of the production of larger quantities and of certain exchanges made.
- Resources provided by the Ministry of Building and Construction through the combine for mechanization in construction (KBM)
- Planned incorporation of indicators and assurance of production-specific technology by the Ministry for Construction of Heavy Machines and Systems (MSAB)

It is in the national interest to take overall need into account as it pertains to reproduction of the road network when developing and producing solutions related to mechanization in the MSAB sector and by the KBM. This requires a uniform mechanization policy on the part of the enterprises, combines and institutions active in the areas of construction and traffic systems and can only be achieved through joint efforts on the part of the representatives of the Ministry for Traffic Systems and the Ministry of Building and Construction. The study cited under No. 3 in the bibliography was advocated before the Ministry of Building and Construction and a corresponding proposal has been submitted. In addition to basic statements on mechanization policy, some of the results of R&D in road construction are reported below.

The useful-life figures in the equipment fleet are currently at a low level and according to estimates will continue to decline until 1990. Maintenance (to lengthen service life) can only be accomplished in conjunction with increasing cost. For some equipment, maintenance in general is a questionable proposition because supplies of replacement parts have been cut off. On the other hand, the conditions do not exist in the workshops of the civil engineering combines to produce higher quality replacement parts.

In many cases these statements also apply to the fleet of road construction machinery, particularly mixers, finishers and rollers for construction of asphalt roads, as well as low-power concrete batching and mixing plants and concrete pavement finishing machines. The descriptions below of some selected machines and devices are intended to show that improvements and changes must be sought despite this not very favorable present situation.

#### Concrete Batching and Mixing Plants

There are 83 concrete batching and mixing plants available within the product group association for road construction and civil engineering (EGV SIT), the vast majority of which have been converted to the production of pavement concrete. This means modification of the concrete pouring height for loading mobile mixers, increasing the space for storing cement and aggregate and installing one or two metering hoppers for admixtures. Since suitable equipment is still temporarily lacking in the construction machinery industry, these metering hoppers for admixtures have for the most part been developed in conjunction with more streamlined construction processes and tend to be

imprecise or incorrect. As before, the need therefore continues to exist for the development and manufacture of more accurate metering hoppers.

In many cases mixing plant performance is a problem. Over 75 percent of all concrete batching and mixing plants have a capacity of less than or equal to 15 cubic meters per hour which leads to longer loading times for transport vehicles and limits possible transport distance.

Studies have shown that the mixing method used by these plants, which is in part inadequate and not designed for high-quality concrete, leads to considerable fluctuations in strength. Considerations regarding doubling the mixing time to 60 seconds as stated in GDR draft norm TGL 33468/04, however, which could even out the fluctuations in strength and produce an estimated savings in terms of cement of up to 30 percent, would further limit the range of the transport vehicles.

It must also still be pointed out that the concrete batching and mixing plants of the combines of the EGV SIT as a rule produce a wide range of different qualities of concrete for road construction and civil engineering structures. The frequent changes of mixture recipes within a single shift which thus result lead to additional quality problems and create additional expense for separate storage of different cements and aggregates. The situation can be improved if, as a replacement investment, the BAA 40 mixer is used in place of the MA 500 for pavement concrete. In addition to improved quality this step would at the same time mean a substantial increase in terms of capacity. In the long term, the development of an easily convertible concrete mixing plant with similar performance parameters to those of the BAA 40 should nevertheless be kept in mind.

#### Mobile Mixers

Mobile mixers are also of particular importance due to the fact that the "pavement concrete with plasticizer" construction method is becoming commonly used and is expected to be used in particular in new road construction and in the reconstruction of city street networks.

The situation in the civil engineering combines, however, is not conducive to helping this construction method achieve a decisive breakthrough. As of 1985, a total of 125 "Roman," "Skoda," "Tatra" and "Jelcz" model mobile mixers were available, most of which, however, are not assigned to road construction, and less than 30 percent of their transport capacity is used for the production of pavement concrete with plasticizers. Only a few vehicles have metering hoppers for admixtures, something which is of particular importance especially where longer mixing times are involved. Another disadvantage is that a certain minimum consistency is required in loading the vehicles because otherwise the feeding funnel becomes plugged.

This makes it impossible to add the plasticizer exclusively at the placement site.

In our view, an increase in current quantities of pavement concrete with plasticizers from 80,000 cubic meters to at least 270,000 cubic meters is



necessary by 1990; this would mean a corresponding need for approximately 50 additional mobile mixers. If the need for 15 to 20 replacement vehicles per year until 1990 is taken into account, a total of 125 to 150 mobile mixers will be required by 1990.

#### Concrete Pavers

In 1981 imported concrete placement processes were introduced in all of the civil engineering combines. For various reasons, which have been covered in detail in No. 4 in the bibliography, these processes have not been able to be sufficiently utilized.

The problem is rail-mounted placement cars, since formless paving techniques--taking into account placement location, structural configuration and low mixing plant capacity--are scarcely a viable option for the civil engineering combines up until 1990.

Demand estimates up to 1990 show that no increased need for concrete pavers exists in the civil engineering combines.

The plan is for R&D personnel to test the placement options and the resulting user-tested improvements in a GDR development, the WSV 4 reciprocating blade spreader with compactor and the further refined BORO 1 (Figs. 1 and 2) [Figs. not reproduced] to see whether they are suitable as next-generation replacements for the imported pavers after 1990.

#### Small-Scale Mechanization and More Streamlined Processes in Concrete Road Construction

Equipment for producing the joints in pavement concrete with plasticizers is available in various designs at the civil engineering combines, while it is frequently lacking for pavement concrete with a consistency of V2/V3. An offer by the construction streamlining VEB in Rostock to series produce the joint vibrator developed there (5) met with only limited response. The reason is surely that the equipment is on rails (can be used by combines with rail-mounted concrete placement cars) and would therefore be only insufficiently utilized (Figs. 3 and 4) [Figs. not reproduced].

A similarly unsatisfactory situation exists with regard to joint sealing, concrete post-treatment and compacting techniques for manual placement.

In order to coordinate development work in this area within the product group association and to obtain uniformly optimized solutions, a research project was begun this year on the subject of this very problem.

#### Information on Some Research Results

##### Composite Concrete Paving Stones

Since a series of publications is already available on this subject, only some additional information will be provided. As of January 1, 1986, TGL 33501/06,

"Concrete Elements for Roadways; Paving Stones" applies to production in concrete manufacturing plants as it relates to demand and quality.

Due to the opening of new production sites for composite concrete paving stones and to streamlining processes in existing plants, 2.5 milliard (billion) square meters are expected to be available nationally by 1990 (1.5 billion square meters by 1988). This means that a considerable increase is planned for which the enterprises and combines must be prepared, particularly with regard to the following problems:

- The development and construction of small-scale mechanisms and more streamlined processes for handling and placement.
- Confirming cost-defraying prices for the placement of composite concrete paving stones.

A hydraulic shift gripper for placement of both AV [not further identified] and TDV [not further identified] stones was developed by the Institute for Civil Engineering of the Construction Academy of the GDR. Test certificate B is available on this equipment. Due to its complexity and to the large number of hydraulic assemblies involved, production of this gripper is in most cases not possible in enterprise workshops employing more streamlined processes. Series production by the construction mechanization combine is not yet definite.

Although the need has been demonstrated by a majority of civil engineering combines, this important question of mechanized placement has not yet been addressed.

A similar situation exists in terms of handling. In answer to an enquiry made by our combine, we were informed that the utilization documents for the non-patented handling gripper developed by the VEB for development and prototyping in Berlin, 20 of which were produced in 1986, will not be available until 1987. Further production is not planned. Research has shown that the demand for this development is already over 200.

Quick action is required here in order to ensure handling and placement by the construction enterprises of the planned large-scale production of composite concrete paving stones. Regarding the problem of ensuring cost-defraying prices for the placement of these stones, a proposal is again being submitted to the Ministry of Building and Construction based on a price and cost comparison performed by the working group on pricing of our association.

#### The Use of Brown Coal Fly Ash in Road Construction

The national economic need to use secondary raw materials in road construction was addressed in dealing with the topic of the use of brown coal fly ash. Together with the Institute for Civil Engineering of the Construction Academy of the GDR, the Advanced Engineering School in Cottbus and the civil engineering combines in Potsdam, Erfurt and Frankfurt (Oder) addressed this topic; the initial results were able to be presented in April 1986. Of the approximately 20 million metric tons of power plant fly ash produced annually in the GDR, only about 15 percent is used within the national economy; the

greatest part of it, 85 percent, is stockpiled. This provided all the more reason for investigating its possible use in road construction. The possibility arose of using brown coal fly ash as a fine aggregate which could be added to the concrete mixture, thus reducing the amount of cement needed.

As the investigations have shown, the addition of brown coal fly ash should be limited to cement-bonded base courses. At the same time certain requirements must be met in order to prevent reductions in quality in the area of road construction.

As a result of these efforts, we have the "Basic Principles Regarding the Use of Brown Coal Fly Ash in State-of-the-Art Road Construction," (6) which provides support to the first-time user of fly ash.

In addition to providing general information, this work contains detailed descriptions regarding the classification and testing of brown coal fly ash. Locations and amounts of available fly ash in the GDR are also given.

Furthermore, information is provided on technological requirements such as preparation, transport, placement, compaction, post-treatment and the TUL [not further identified] processes. Special investigations on the fly ash produced at the Boxbergjaenschwalde and Thierbach power plants were conducted by the advanced engineering school in Cottbus. The results of that investigation are also included in the above-mentioned work.

Interested parties can request documentation from the Institute for Civil Engineering of the Construction Academy of the GDR.

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12552

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## BRIEFS

**INCREASED LIGNITE PRODUCTION PLANNED**--The GDR sees confirmation of its energy policy, which is based on domestic brown coal as the main energy source but increasingly also on nuclear energy, by the most recent congress of the World Energy Conference in Cannes. As the director of the Institute for Energetics in Leipzig, Dr Bernhard Kahn, said in an interview, it was "remarkable how the developments presented in Cannes correspond with the energy policy of our nation." The growing importance of coal--which makes up over 70 percent of all fossil-fuel reserves--as an energy source was clearly emphasized at the congress. The combustion of oil for heating purposes could not be justified, he said, if future generations are taken into consideration. In the medium term, Dr Kahn continued, the earth's energy problems can only be solved through the use of coal and nuclear energy--in the long term through nuclear fusion. The efficient use of energy sources, he added, is of fundamental importance. Regarding the use of so-called alternative energy sources, the director of the GDR Institute for Energetics said that the level of priority would depend on the concrete conditions prevailing in individual countries. In the GDR, however, the quantities of such energy sources would also "not increase by more than a few percent" by the turn of the century. By 1990, the GDR intends to increase annual coal production to 330 - 335 million metric tons as compared to the 312 million metric tons produced in 1985. In addition, as Honecker explained at the 11th SED Congress, 15 percent of the electrical energy is expected to be produced by nuclear power plants by 1990. In 1985 this figure was 11.2 percent. [Article: "GDR Sees Energy Policy Confirmed by World Energy Conference"] [Text] [Bonn IWE WIRTSCHAFTSDIENST in German Vol 27 No 40, 7 Nov 86 p 1] 12552

**INFERIOR CONSUMER GOODS**--According to renowned East Berlin political economist Prof. Juergen Kuczynski, there is growing criticism by the GDR populace of domestically produced inferior-quality goods. In a discussion which aired on "Radio DDR," he said that the media in the GDR are constantly publishing reports on "how our productivity is increasing and what savings we have achieved in terms of raw materials." Such developments are wonderful, Kuczynski said. "But more and more," he added, "the people are complaining about the loss of product quality." This political economist emphasized that productivity in and of itself was of no use if quality did not develop simultaneously along with increasing productivity. For example, if productivity were to increase by 30 percent and material consumption were to decrease by 10 percent, "but the product's life is only half as long" and even then requires numerous repairs, then the bottom line is that it costs more "than increased productivity and decreased material consumption can bring us in return." [Article: "Kuczynski: Population Complains Increasingly About Lack of Quality"] [Text] [Bonn IWE WIRTSCHAFTSDIENST in German Vol 27 No 40, 7 Nov 86 p 3] 12552

## TEXTILE TRADE WITH CHINA ADVANCES

Lodz GLOS ROBOTNICZY in Polish 16 Oct 86 p 1

[Unattributed article: "Chinatex's Attractive Offer: For the First Time in Lodz, Chinese Textile Products at Textilimpex, Prospects for Trade Growth"; first paragraph is GLOS ROBOTNICZY introduction]

[Text] For the first time in many years an exhibit is being held in the conference hall at Textilimpex of textile and clothing products made in China. The exhibit which is also an offer to our foreign trade partnerships was prepared by the China National Textiles Import and Export Corporation, Chinatex.

Yesterdays official opening of the exhibit, which was conducted by Zhi De Xin trade consul for the Chinese Embassy in Warsaw, was attended by Jozef Niewiadomski (first secretary of the PZPR Lodz Committee), Adam Walczak (secretary of the PZPR Lodz Committee), Longin Wojtal (deputy president of Lodz), Eugeniusz Zarzycki (deputy minister of the chemical and light industries), and the directors of Textilimpex, Confexim, Tricot and representatives of the production and trade enterprises.

With each passing year the PRC is becoming a more important and attractive trading partner for Poland. On the one hand, this is a result of China's policy of an opening itself to the world, and on the other, a result of the more frequent political contacts, for example Wojciech Jaruzelski's recent visit to China. The Lodz Foreign Trade Offices were one of the first to establish close contacts with the Chinese. As a result Textilimpex in 1983 had a turnover of 49 million Swiss Francs. This year their turnover will be about 270-290 million Swiss Francs. Textilimpex's most important partner is Chinatex, which annually has a turnover of \$7 billion in exports and imports. It sells raw materials, semifinished products, and finished products. The latter beginning with cloth, to shirts, nightgowns, jackets, lined jumpsuits, housecoats, pants, and ending with accessories includes about 300 products. All of them are on display at Textilimpex. We must also mention that many of the Lodz enterprises are filling orders for the Chinese importers. For example, the Vera clothing factory is producing 320,000 meters of knitted fabrics for China this year. We are also selling large quantities of imitation wool cloth. Recently, Wifama foreign trade bureau concluded a contract to ship looms and spinning frames to China to be produced by Wifama and Majed valued at 3.1 million Swiss Francs. This clearly shows the possibility for increasing trade between Poland and the PRC.

13021/12859

CSO: 2600/165

## FAR EAST TRADE PICTURE REVIEWED

Krakow GAZETA KRAKOWSKA in Polish 22 Oct 86 p 4

[Article by Jacek Balcewicz: "Our Interests in the Far East: Poles in the Chinese 'Special Zone'"]

[Text] The Far East for us, central Europeans, is exotic and unknown. Thus, it was interesting for many of us to follow Wojciech Jaruzelski, first secretary of the PZPR Central Committee, during his recent visit to Mongolia, the DPRK, and the PRC. Besides the political importance, economics stood out. In Poland, especially in economic circles, even at the middle and lowest levels the communiques and information about the decisions made and agreements signed were followed closely. It is no secret that large markets for sales are opening up for our economy, and cooperation is entering a new quality-oriented phase.

Just a few days ago in Choibalsan, in eastern Mongolia, a silicate brick plant was put into operation built with credits from Poland, designed in Poland, and outfitted completely with Polish machines and equipment. This is not the first project of this type in Mongolia. Silicate bricks and cellular concrete plants have been built here with Polish help since the 1960's. In fact Krakowians blazed the trail here in the 1950's; the white brick layers from the Krakow Industrial Furnace Construction Enterprise built the lime kilns in Darhan. A wood plant with a furniture factory, glue factory, and a few distilleries were also built according to Polish plans. Mongolia also purchased coal mining machinery, construction equipment, medical equipment, medical equipment, tractors, car trailers, agricultural machinery, small planes, radio receivers, chemicals, even cosmetics. The relatively new Frutaroma from Krakow succeed in selling some of its mouthwash "Dentosan" in Mongolia.

In return Poland received from Mongolia mostly agricultural goods and consumer goods. We can list raw and treated skins, leather clothing, rugs, and sawn timber. Our shoe industry places great hopes in shipments of so-called secondary skins from Mongolia. Mongolia is a large country rich in natural resources. Large sections of the country have not yet been thoroughly explored. For more than 10 years an international expedition has been working here that includes Poles in addition to specialists from the USSR, Czechoslovakia, the GDR, Bulgaria, and Hungary. They have discovered large new deposits. As a result, Mongolia's exports have broadened: molybdenum, tungsten, tin, fluorine. These raw materials were available to us previously practically only for convertible currency.

Polish engineers and workers have played a significant role in reconstruction of the economy of the KRLD destroyed by many years of war. The railroad wagon factory in Phenian was expanded; the coal mine in Anju was modernized. Krakowians assembled and walled the blast furnaces in Phenian and Wonsan. In recent years, we have sold mostly machinery for mining and metallurgy, ship outfitting, and spare parts for internal combustion engines and airplane engines, medical equipment, optical equipment, and laboratory equipment, and coke and sulfur to Korea. Our partner's shipments have consisted mostly of roasted magnesium, talc, tin, fluorine, lead, graphite, steel sheeting, and table porcelain, and shoes.

China is now the fashion. Just 3 or 4 years ago every mention of Polish-Chinese trade contacts sounded exotic. Today they have become part of our daily export routine. Increasing numbers of Chinese goods have appeared in our stores, and surprisingly nearly all of what is made in China is first quality. It does not matter whether it is a thermos, cotton underwear, a fountain pen, or finger brush. Last year I had the opportunity personally to acquaint myself with Chinese abilities at the export exhibit in Warsaw. A single phrase describes my impressions: It took my breath away. China is also shipping us large quantities of rice, tea, corn, pork, sports and camping equipment, and office supplies.

Shipments of mercury and concentrated tungsten ore will be especially significant for us. The Krakow Fur Shops have already received a large number of exotic fur skins, which made into coats will greatly improve the market selection.

In exchange we are shipping mostly machinery and equipment, technology, and some raw materials (caustic soda and soda ash, electrolytic copper, polyester fibers, metallurgical products and sulfur). In China one can also see signs of Krakow. For example, a specialist from Hydrokop participated in studies on the exploitation of Chinese deposits. The Cooling Equipment Plant in Debica has already supplied a large storage refrigerator and another is being built. I will not discuss the shipments of automobiles and railroad cars at length, for they are common knowledge. But I do wish to mention other plans in which Poles will participate. We are, for example, building two complete coal processing plants with a capacity of 4 million tons annually in Kwangsi Chuang Autonomous Region and Hunan Province. The Chinese power industry will receive two 360 mw generators and two 300 mw boilers from Poland. Polish specialists will participate in the modernization of a number of coal mines, they are developing open-pit mining, and they are cooperating in mine rescues.

Links in electronics and automatics, including the production of components and elements are well advanced. Elektrim has even spoken of a Polish-Chinese partnership in the PRC, of course. Common projects in ore processing, machine-tools, food, and transportation are being financed. One item for the near future is the modernization of Chinese industry. This applies especially to projects built by Poles in the 1950's (sugar refineries, power stations, coal washing plants, and spinning plants. The Chinese also see a place for us in their special economic zones along the coasts, for expanding along the lines of the Polish-Chinese shipping partnership Chipolbrok which has been in operation for several decades. All these examples prove the complementary nature of



our needs and abilities. On the one hand there is great need for machinery, technology, and turn-key projects, not necessarily supermodern, technologically sophisticated ones but simple, reliable ones. On the other, there is a need for a full range of raw materials for the harmonious development of our economy and improving production. There are also proposals for our geologists, geophysicists, drillers, and miners. In short, we are increasingly necessary and beneficial partners for each other.

13021/12859

CSO: 2600/165

## KRAKOW EXPORT PROBLEMS EXAMINED

Krakow ECHO KRAKOWA in Polish 23 Oct 86 p 1

[Unattributed report: "Gaps in Exports"]

[Excerpt] Why are exports still lower than they could or should be? The Krakow Chamber of Foreign Trade sent a survey to 155 enterprises in the voivodship. They received 70 replies; obviously in half of the plants no one is considering exports at all. Of the plants that gave up exports during the last 5 years, 35 percent say their action was due to problems with raw materials or cooperating partners, 20 percent admit that they cannot meet the quality, quantity, or deadline requirements. There are other reasons: a shortage of proper machinery and equipment or new technology, a dearth of credits both in zloty or convertible currency, a scarcity of the right specialists, a lack of packaging.

Andrzej Lisowski, director of the Krakow Chamber of Foreign Trade, comments: "Striking while the iron is hot, we will now analyze the situation in our Krakow enterprises. We can help in negotiations with partners and organize cooperation with institutes or schools of higher education that are ready to develop new technologies. Answers like "a scarcity of the right specialists" are surprising; they rather indicate bad personnel policy; arguments of a dearth of credits make one wonder, for no Krakow enterprise applied for a credit in convertible currency! Moreover, their knowledge of the basic legal and economic regulations is surely insufficient: only half of the enterprises answered that it knew the preference regulations associated with exports.

CSO: 2600/164

## PROBLEMS IN DEVELOPMENT OF COMPUTER USE IN ECONOMY VIEWED

## Domestic Computer Production Barriers

Warsaw RZECZPOSPOLITA in Polish 6 Nov 86 p 3

[Article by M. Miecznikowska]

[Text] All opportunities for application of microprocessors and microcomputers are now practically unimaginable for the average person. There are many devices and elements known from the history of engineering which, thanks to the ease and infallibility at the same time universality of their use, became the engine of progress in fields of human endeavor completely independent from each other. Today, despite the fact that not all of us are aware of it, such a role has fallen to microelectronics.

Management, planning assistance, control of technological processes, scientific research, mathematical calculations, medicine--these are only examples of the already universal use in many countries of information systems.

Reading our press announcements and seeing numerous television advertisements give one the impression that the situation "on the subject" of computers is a rather peculiar instance in our internal market; the demand is, after all, greater than the supply, but the bid is significant enough. Not without significance here, however, is the price, discouraging to even the most ardent devotees of new things. In Poland, in the case of equipment supplied by "Polonia" firms, a one-dollar computer ranges from 2,000 to 8,000 zloty. In addition, the still low level of technical service and lack of spare parts and service mean that shortly it will become unusable scrap.

The state firms--ELWRO, MERA-KFAP, MERA-STER, ELZAB--do not meet the national demand even to a minimal degree with their microcomputer production. The following data add piquancy to the matter: in 1985, according to estimated data from the Central Customs Office, private individuals imported into Poland about 6,000 various microcomputers, and in the first 6 months of this year, this quantity increased to 12,400. In comparison, annual state production of microcomputers generally amounts to 3,000, states the "Mera" Association.

What is the reason for this state of affairs? It surely cannot be a lack of qualified technical personnel or professional knowledge amongst Polish engineers. Then what is it?

The reason is the lack of modern production technology, RLC [resistors, inductors, capacitors] elements, transistor diodes, systems put together in an especially large scale of integration, switches, connections, as well as peripheral equipment.

The situation would improve if such production became profitable for the firms manufacturing these elements. For now, they all want to complete their systems. Only, with what?

In view of this, could not the industry buy the necessary parts made in capitalist countries until modern national production is set in motion? It appears not. As is so often the case, the problem is finances. Not exporting their own products to another payment zone, the firms manufacturing microcomputers do not have—from where?—the hard currency resources for buying the needed elements at their disposal. Even if some group succeeded in working out a modern, competitively priced product, the time elapsed in arranging the formalities of an import contract, surmounting all kinds of barriers, and beginning large-scale production would cause it to be technically outdated.

The point is that opportunities—above all, legal ones—should arise in the time of economic reform which are not worse than those which "Polonia" firms, handicrafts, and cooperatives have. The point lies in freedom of action serving actual economic effectiveness, and in introducing progress in the process in computer science, education, and economy of the country. Till then, bureaucratic barriers constitute a primary obstacle to the free operation of businesses, which do have enormous potential. Freedom of maneuvering and opportunities to make quick decisions independently are lacking for computer-industry firms.

In this line of production, time flies inexorably fast. Excellent private producers of microcomputers know this. But not only for this reason, or perhaps not in the first place, this is why they are winning in the rivalry with state industry. Diversified production, which they most often operate, affords a splendid opportunity for maneuvering. Selling timber or dolls, for example, they are able to buy unassembled microcomputers and peripheral equipment "in kits" for the hard currency earned this way. These are completed in this country, and likely sold for profitable prices; soon, new firms in this line of business will arise like mushrooms after rain. Of course, no one is advocating that the large, specialized state industry imitate small firms with varied production profiles. However, greater freedom of action than till now is necessary during the time of economic reform. It is worth taking this opportunity to know how small, private businesses solve the problem of microcomputer pseudoproduction.

#### Software, Computer Education Lacking

Krakow GAZETA KRAKOWSKA in Polish 15 Oct 86 p 3

[Article by Leslaw Peters]

[Excerpt] Today we are again living through a wave of fascination with computers.

Again--aware that computing machines are changing the shape of the world before our eyes--we are making a repeated attempt at mass inoculation of computers in our land. There are suitable records in the resolutions of the highest boards, and there are assurances from the authorities of necessary priorities, but yet it is difficult to resist the impression that not all is as it should be. Thanks to the activities of numerous firms: state and private, "Polonia" and foreign, and thanks to the enormous influx of equipment imported by individual buyers from abroad, there is no greater problem with attainment of a sought-after model than whether it be available for hard currency or also for zloty. The prices may scare off private buyers (and these are only the less wealthy), but are easily accepted by an institution. There are practically no impossible barriers to outfitting any work group with a computer. What's more, many small businesses, which could not dream of owning a computing machine in the seventies, can now possess one for a few hundred thousand zloty.

The relative ease in acquiring computer equipment favors non-industrial purchases. Again, like 10 years ago, one makes the decision to buy the equipment in the first place, and later begins to think of what use it will serve. The huge spectrum of possible choices in equipment--from completely professional machines to home computers--creates the temptation to settle for the cheapest devices, which turn out to be unsuitable when a reasonable use for them is found. Thus, the wide and rather profuse market offering becomes a trap for those unfamiliar with the problem.

If an institution interested in buying equipment specifies precisely its needs which a computer should satisfy, and matches fully the appropriate model with these needs, this still will not mean the end of its troubles. Software is essential for operation of a computer. Meanwhile, in spite of the copious flow of hardware, there still is no market for real software in Poland. Here, of course, the matter concerns the opportunity to buy original domestic programs, and those created abroad or their faithful copies are unobtainable in Poland. In this past May's issue of the monthly periodical INFORMATYKA, Wacław Iszkowski writes that we need programs which converse with the user in his native language in a manner understandable for the secretary, storekeeper, and bookkeeper, and programs serving as documents in the guise of well known forms and printed matter as well as conforming with the existing clerical rules and regulations for the preservation and circulation of documents in our country. Unfortunately, there is none of this, if one does not count incidental cases. Iszkowski concludes, "As a result, in hundreds of institutions equipment worth more than a trifle stands practically unused. This equipment is not paying for its amortization, and is more and more of an eyesore for the bookkeepers."

But this problem has its own deeper dimension. The Polish market remained open to firms of various type offering hardware, including equipment with application software, but it is universally forgotten that it still would be necessary to teach future users the methods of using it with the opportunities created by computer science. Firms operating in this line of business assume in advance that a client coming to them knows what he wants. During an exhibition organized recently in Warsaw by the "Refleks" Enterprise for Introducing

Organizational-Technical Progress, microcomputers with programming compatible with the IBM PC were offered to potential buyers, as well as software executed according to the buyer's wishes. Employees of the business attending the exhibition had, however, little to say on the subject of potential applications of the equipment other than those which so far have interested clients. Their attitudes were rather towards concrete orders. Practice shows that those interested in computerization of their own department are not yet prepared for it. A wide dissemination of knowledge about the role which information science can and should play in the economy is then indispensable. Individual production or trading firms will not arrange this. A system of permanent computer education for managerial personnel of businesses is needed, which would keep up with the trends appearing in the world economy. Managers of production departments must have easy access today to information on methods of using computer technology in various stages in the process of manufacturing. Without this, the current wave of fascination with computing technology will pass over, if only the available sets of computer games become boring. Dust will cover the microcomputers, and we will be left with the bad taste of repeated disappointment.

Automated control of the production line, computer assistance in planning, expert systems--this is already the present day reality in many businesses in highly industrialized states. In our situation, the defeat of a second approach to massive computerization of the economy would be equivalent to approximating the specter of a crisis significantly more serious than the one which we currently are leaving behind us. We already have an awareness of this fact. Now the matter still concerns extraction of correct results from this.

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## ECONOMIC INSTITUTE REFORM STUDY REVEALS SKEPTICISM

Lodz GLOS ROBOTNICZY in Polish 15 Oct 86 p 3

[Article by Dr Marian Jedrzejczak: "In Search of Internal Coherence"; first paragraph is GLOS ROBOTNICZY introduction]

[Excerpt] In the opinion of many theorists and practitioners, the reform has made itself thoroughly at home in our enterprises. Everyone agrees, that today we must proceed to the second stage of the economic reform. There is less agreement, however, on the reasons for justifying this second stage, and complete lack of agreement on which undertakings and enterprises should begin the second stage.

The National Economy Institute, which stubbornly attempts to discover the opinion of our industrial personnel on the implementation of the reform, has studied this problem. The fifth survey devoted to this issue provides, it seems to me, much valuable material for discussion of the second stage of the reform. While optimism can be seen today among the politicians and economic activists, the voices of the practitioners are far from such a rosy view. The survey results support this statement. Of the 56 respondent enterprises only 14 gave the implementation of the reform a positive grade. The remaining ones judged that either a departure from reform had occurred, or simply that "it was nearly impossible to speak of any reform now." These are not uplifting opinions, if we believe that feelings and convictions can be extremely subjective in this area.

It is surprising that the enterprises place the blame for this situation on external forces. Where is the principle of the three S's? Only 13 percent of the respondents admitted that the attitudes of production employees can constitute an obstacle to the implementation of the reform.

However, almost half of them blamed the central administration, and 20 percent faulted the structure of the new economic system. Thus shifting the blame and pointing the finger at one's colleagues, regardless of whether it is justified or not, is also rooted in the characteristic attitudes of the enterprises towards the reform in general. For the first time, the results of the Institute's survey have clearly revealed that the industrial personnel treat both the new management system and the changes that are taking place in it as something imposed on and independent of the enterprises.

This is a very disturbing phenomenon whose source should be sought in the enterprises' general feeling of their lack of influence on the center's decisions. Only 13 percent of the respondents, usually large plants with strong positions in the ministry or branch, rated their influence as significant.

The respondents were also sceptical about the reform's future. The vast majority of the directors were generally pessimistic about the durability of the changes introduced into the economy so far. Only 11 percent of the respondents said that the changes will be lasting or relatively lasting. The other responses fell in the categories of "rather short-lived" or "short-lived."

The respondents held similar opinions on the operation of the principle of the three S's under the reform. Nearly half of the enterprises said that in practice the principle of independence is limited in essential aspects to a greater or lesser degree.

In the respondents' opinion the main causes for this lie in the financial situation of the enterprises, whose tax burdens are too high, in the rationing of raw materials and materials, and in the faulty price policies. Curiously, there were no mentions of errors in organization and efficiency within the enterprises. Again they shifted the blame upstairs.

They decidedly emphasized the crucial role of the director in the economic operations of the enterprise. In response to a question about who makes the enterprise's critical decisions, about 60 percent answered that the director and only 7 percent answered the workers' council.

Even given the premises listed at the beginning of this article, given a large margin of error, given the subjective nature of the opinions and shortsightedness of the respondents' answers, and given a different interpretation of the results of the Institute's survey, there is no way we can claim that the reform now faces smooth sailing. It is also disturbing that in comparing the results of this survey, the fifth so far, with the previous ones, we can observe that at best a stabilization has occurred, and in the case of the three S's and the future of the reform we see a worsening of the mood of the enterprises' personnel.

What should be done about it? In my opinion it is insufficient just to make declarations that we are ready to introduce the second stage of the reform. We should implement systematically the measures written into the reform as the enterprise leadership is demanding. At meetings with the workers on the implementation of the reform, proposals to reduce the central administration have been made, but proposals have been made more frequently to reduce the branch administrations, to eliminate the intermediate links for voluntary groupings of enterprises, and to abolish the monopolization of the economy. The results of this survey confirm these desires.

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## FUTURE OF SUBSIDY SYSTEM VIEWED

Warsaw EXPRESS WIECZORNY in Polish 21 Oct 86 p 3

[Article by Marek Adamski: "And Now What About the Subsidies: The State Pays, Pays, and Pays"; passages enclosed in slantlines printed in boldface]

[Text] /The state subsidizes public transportation, power, the coal and metallurgy industries, municipal services, housing, milk, meat, and cheese. Zloty after zloty, to goods, to services, to entire enterprises, and they add up to millions, billions, trillions./

The list is long and provocative: if the state subsidizes so many things out of its budget, who subsidizes the state? Subsidizes, inflation, disaster? Were the wheels of the reform consciously mined with grit?

The buttresses of the reform were to be profitable, independent, self-managing enterprises, but in particular they were to be self-financing. The three S's, however, found their way obstructed by the law on prices (1982) that assumed, in part correctly, that prices must be tolerable for society and the law included a clause on official prices which "are set at a level lower than justified by the costs of production and profit."

/And so the state took upon itself the responsibility of compensating the enterprises for the losses caused by the official prices./ You produce so much of this product and we will pay you so much in subsidies.

"There is an exact link between the official price and the level of subsidy," the system theorists reply to the charge that subsidies in effect mean the pumping of money from efficient enterprises to inefficient ones by way of the budget. "If the rate of subsidy is fixed," they add, "if it is in fact added on to the price, then the more efficient the subsidized enterprise is, the higher its rate of return and the more it has for investment and wages."

Have we reached the land of the absurd? Have the miserly funds given out as subsidies (recompensation, limited to the absolutely essential minimum) become in effect incentives to free up reserves, compel economic efficiency, reduce unjustified losses, in short to eliminate everything included in the litany of prices (market or official) of products? Are subsidies to be justified economically on the most exalted grounds?

Life itself contradicts the apparent logic of the above argument. It is not just a matter of whether the enterprise freed from budget subsidies will cease to remember the over extended budget balloon and achieve a relatively higher level of stability. It is equally important that given our violent inflation, the turmoil of changing prices for supplies, the rapidly rising production costs and the calm, slow pace of prices, /the budget is forced to expended steadily increasing sums to recompense someone for something./

The subsidy plan for 1986 calls for 1.2 trillion zloty. In other words, /subsidies will constitute one-fourth of the budget./ Of course this is true only if the prices do not change too radically.

After the first two quarters the subsidy structure was as follow: most went to the /food industry/ (mainly for milk, meat, grain products), then came, /mining, municipal services, and housing./ These three industries in all consumed more than 70 percent of the money paid out of the budget as subsidies.

Near the end of the year the proportions could be different. The recent increase in prices for meat and meat products will surely limit the subsidies for the food industry, but prices for coal in relation to current costs of extraction, transportation, etc., (it is another question whether they are justified) have remained at an artificially low level.

Knowing what and to what degree the subsidy system is a burden for the state budget, we can guess that a /departure from it (one of the basic tenets of the reform and also a prerequisite for its success) will be difficult and painful./

For example, the housing industry, how can anything be changed given the existing mosaic of legal regulations without giving privileges to one group at another's expense? Clearly, the heart of the matter lies in the answer to the question: /how to alter it?/

/Here we should also realize that a total departure from subsidies appears neither worthwhile nor possible. State subsidies are not our invention. They typically occur in market economies too, but certainly there they are no so common. The second equally important question is how to select the areas in which, at the very least, subsidies can and should be limited./

Opinions on this point are divided. Many economists think that they should be retained primarily in the housing and milk industries; however, some initial decisions have already been made. We know for instance that in the coming year /subsidies will be frozen at current levels./

/For the subsidized enterprises, at least for the majority, it is the total subsidy that will be frozen and not their internal structure. This means that at best, they /must operate more efficiently./ For the buyers of goods and services, well, unfortunately, here we touch on the sore subject of retail prices.

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## PROSPECTS OF ELECTRONICS INDUSTRY VIEWED

Koszalin GLOS POMORZA in Polish 20 Oct 86 p 3

[Article by Mirosław Marek Kromer: "Polish Electronics Begins in Koszalin"; passages enclosed in slantlines printed in boldface]

[Excerpts] /For many months our exports to the developed countries have provided neither satisfaction nor sufficient convertible currency./ These countries still gladly buy cucumbers and coal from us, but they purchase lathes, refrigerators, cars or deep-well pumps less willingly and for ever lower prices.

/The Koszalin Electronics Plant Kazel occupies a major place in the investment and modernization program. It is the first link in the chain of the Polish electronics industry./ It makes the housing for all of the diodes, transistors, and integrated circuits produced in Poland.

These domestic parts of semiconductors satisfy only 50 percent of our needs. In order to illustrate the distance to the world leaders I only need mention that the GDR, hardly an electronics giant, produces three times as many.

At Kazel, two large production halls are under construction. The first of them will house machines bought in succession in countries in both payment areas that will permit tripling production of blank forms on which transistors and integrated circuits are mounted. Completion of the work is anticipated for the middle of 1988. This first stage of the modernization of Kazel will cost 3 billion zloty. The second stage should be completed in 1991 with the start up of the galvanizing plant with a waste neutralizer.

Zbigniew Muszynski, chief director of the plants, promises that after modernization Kazel will be able to produce electronic components that meet the highest world standards. On condition that.... Exactly. The director takes a small plastic bag out of his desk drawer and pours out a few flat pieces of metal, on which diodes are mounted. Each of the pieces carries a few blemishes. /These elements cannot be used to produce high quality components. The crux of the matter is that this is not a collection of rejected elements, but a random sample of those made from the steel tape sent to us from the Warsaw Steelworks./ Basing domestic production of electronic components on imported raw materials and materials makes no sense. Poland has the capacity

to produce enough to completely satisfy the needs of the electronics industry, which does not consume much materials. The problem is not the quantity but the quality of the materials and raw materials. In order to secure it further investments for modernization in the billions of zloty are needed. Given the current state of the economy it is hard to get these funds. But we must find them, for it is impossible to imagine a more profitable investment than in electronics. It is not a matter of the high sales prices for electronics components or the finished equipment in which they are used.

/The general use of electronics creates multiple savings in the consumption of materials and raw materials by conserving fuels and energy. The domestic electronics program should receive the highest possible priority. Theoretically it already has it./

The construction of the galvanizing plant is included in a government commission. This gives priority in obtaining contractors and the needed building materials. Practically these are obligations without value. /It suffices to say that during the current year that construction work was halted for 3 months for lack of cement./ Koszalin Industrial Constructors were not forced but begged to take the general contract for the galvanizing plant. The deadline for moving into the hall by the end of 1989 is a fiction. /The investment concerns electronics in which the most advanced technologies become outdated in just 2 years. It is even more amazing that the main hall which is to house the machinery and equipment for producing the blanks is not included in a government commission./ Its major constructor is the remodeling and maintenance crew of Kazel itself. The main burden of the investment work must be performed by the plant's administration, which is supposed to build semiconductor components and not production halls.

If Kazel produced skis we could accept this method of investment. But on Morska Street in Koszalin a construction project continues on which the success of the domestic electronics program depends. But Polish electronics begins in Koszalin.

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## BUCHAREST INTERNATIONAL FAIR FEATURES NATION'S EXPORT PRODUCTS

Bucharest REVISTA ECONOMICA in Romanian 31 Oct 86 p 13-14

[Article by Ioan Georgescu: "Positive Results at the 1986 Bucharest International Fair"]

[Text] This year's edition of the Bucharest International Fair, conducted under the banner of "Trade-Cooperation-Development-Peace," constituted a success from three points of view: the presentation of Romania's export and cooperation potential, the conclusion of certain important import-export operations, and the mutual exchange of information and technical experience between hundreds of companies from the dozens of countries participating in the fair hosted by the Capital of Romania. Romania's exhibits alone encompassed over 700 Romanian industrial enterprises covering an area of more than 30,000 square meters. In addition to this, there also was the contribution of scientific research and technological engineering units and specialized companies involved in foreign trade and international economic cooperation.

Characteristic of Romania's participation in the current edition of the fair was the concern of the exhibitors to display for the most part new products having high performance characteristics which truly are part of the exigencies of international competition. Thus, a special impression was also made at this fair by the variety of Romanian aircraft: jet-powered aircraft, helicopters, gliders and motor-equipped gliders, jet engines and helicopter engines, and other components produced by certain prestigious enterprises such as: the Craiova and Bucharest aircraft enterprises, the Brasov Aeronautical Construction Enterprise, the Bucharest Turbo-Mechanics Plant, the "Aerofina" Aerospace Equipment Enterprise and so forth. Similarly, the variety of maritime ships produced by the shipyards at Galati, Constanta, Braila, Giurgiu, Oltenita, Tulcea and Drobeta-Turnu Severin was improved by the addition of new types having superior technical-operational characteristics, of which we can note: models of new 200- and 500-passenger ships, a new 15,000 DWT ferryboat, higher capacity bulk carriers of 25,000 and 85,000 DWT, new models of 7,000 DWT and 35,000 DWT petroleum tankers, the new model of a 15,000 DWT general cargo ship, a 430-ton-per-unit container carrier, 10,000 ton and 20,000 ton floating docks, tugs with two 1,200 hp engines, and icebreaker tug, pusher-tugs with two 800 hp or two 1,200 hp engines or one 4,800 hp engine, specialized ships (for fishing, for spreading anti-pollution materials, for maintenance work, for diving, for bunkering and so forth), barges having a capacity of 1,500, 1,760, 2,000 and

and 3,000 tons, roll-on/roll-off ships, and offshore drilling platforms, as well as components produced in naval mechanics enterprises and communications electronics enterprises.

Another prestigious group at the fair was the highway transport industry, which offers for export 58 basic types of trucks, chassis and tractors, a number which can be multiplied five times over by equipping them in other companion industries for different purposes by way of changing the chassis and providing equipment to meet various orders. Of these types, 80 percent were new vehicles which entered production or are to enter production gradually during the 1985-1990 period, 12 percent were modernized vehicles from current series production and 9 percent were redesigned products. The export list includes: trucks and tractors (28 types) with useful loads up to 32 tons and having motors of between 135 and 360 hp; vehicle chassis (9 types) slated for use in frames for bus superstructures; tractors for tractor-trailer rigs (5 types) having a useful load of up to 40 tons; dump trucks (14 types) with loads of up to 30 tons and heavy duty, high-tonnage dump trucks (2 types) with up to a 110 ton useful load; specialized superstructures for diverse purposes (47 types) - including tankers having up to 30,000 liters capacity, tankers for carrying liquid food products, petroleum and chemicals, refrigerated and insulated vehicles for transporting perishable food products, cement trucks, special vehicles for fighting fires of various types of construction and equipped with mobile, telescoping ladders of up to 30 meters in length, mobile workshop vehicles equipped with devices and equipment to provide services, and utility and cement trucks; urban transport buses; interurban vehicles and 8 passenger luxury stretch cars; simple and articulated trolley buses having transistorized equipment (4 types); utility vehicles (33 types); pick-up trucks; mini-trucks; minibuses; ambulances; combined utility vehicles; tow trucks and semi-tow trucks; trailers of up to 80 tons; worksite equipment such as front loaders and bulldozers; diesel engines rated at 135, 154, 215, 256, 280, 320 and 360 hp; vehicle components (synchronized and non-synchronized gear boxes; radiators; tandem and single axles; axles; suspension parts - in more than 40 types); and processing and assembly lines of the CKD/SKD type.

The Pitesti Automobile Enterprise has produced to date over one million Dacia cars. Of these, approximately 30 percent were exported. Current models are offered to foreign partners with a number of engine options: 1,200 cc, 1,300 cc and 1,400 cc in the Berlina and Break models; the two-door "sport" model and the "Dacia 1304" one-ton minitruck. Appreciated by buyers in Romania and in other countries, the "Dacia" has been successful in the top fields of automobile competition. In 1984, the competition team from the Pitesti Automobile Enterprise had a beautiful success in the "Tour d'Europe" rally, taking first place in the 1,300 and 2,000 cc classes.

Dacia has successfully campaigned in the World Rally Championships, participating in contests in Portugal and Greece. At the Portugal Rally, Dacia took the first three places in the 1,300 cc class and second place in factory teams. In the "Acropolis" Rally, it took third place in the 1,300 cc class and second in the factory teams. Such prestigious successes have led to Romanian cars winning certain important segments on the international auto export market, for example, in England, Denmark, Greece, Canada, Hungary, Czechoslovakia, East Germany, Poland, the PRC and so forth.

The "Olcit" automobiles - products of the joint company by the same name in Craiova and having the Citroen Company as a cooperating partner - represent the second Romanian brand that has begun to assert itself on the international auto market. In addition to the three-door Berlina model offering two engine options (650 and 1129 cc), production was recently started on a 1290 cc engine model, which is being successfully marketed by Citroen in Europe under the name "Axel."

The latest Romanian creation in this field is the completion of a variety of Romanian autos having small engine displacements and reduced levels of fuel consumption, as required by the current circumstances of the international auto market for the purpose of saving fuel.

In the field of all-terrain vehicles, the ARO model - an entirely Romanian design - is today known throughout the world by the quality and performance of the vehicles delivered by the enterprise in Cimpulung Muscel. Over 200,000 ARO's are currently in use in approximately 60 countries on 5 continents under operating conditions that are among the most difficult and climatic and topographic conditions that are among the most varied. Equipped with gasoline and diesel engines that are reliable and durable, ARO's are currently exported successfully to countries in Europe (France, Italy, Greece, Portugal and Spain), South America (Columbia and Peru), Africa (the Ivory Coast and Egypt) and Asia (the PRC). The successes attained in auto competitions for all-terrain vehicles - in Columbia, the FRG, England, Iceland, Egypt and Tunisia - have led to the creation of an image of a prestigious model for the Romanian all-terrain vehicle. The ARO vehicles include two distinct models: the "ARO-10" offered for export in 7 models and 20 variations, and the "ARO-24" offered in 4 variants and two engine options: 1,300 and 1,400 cc, with the engines being built at the Pitesti Automobile Enterprise.

New items were also presented by the Brasov Universal Tractor foreign trade company. Among the new products displayed were the small-engines U302 and U342 tractors rated at from 26 to 42 hp, conceived and designed by a group of engineers and technicians from the Center for Scientific Research and Technological Engineering for Tractors at Brasov, and built by the Brasov TRACTORUL Enterprise. The new U302 tractor - part of the low-powered models - is equipped with a D111003-type diesel engine with a power rating of 19 KW (26.5 hp) at 2,400 rpm. This tractor has one forward and three reverse gears. In the class of powerful tractors, we have the "UNIVERSAL"- series 850-1010, highly technical, powerful tractors capable of successfully supporting the full mechanization of large agricultural projects. Designed to implement intensive work methods in advanced agriculture, in heavy transport work and in forestry projects, these tractors are characterized by superior technical parameters: power, multi-use, high technology, quality, reliability, durability, easy handling and modern lines. Their high performance is attested to by many institutes for experimentation throughout the world. The four-cycle, six-cylinder vertical in-line diesel engine has exceptional use indices.

In the last 20 years, Romanian tractor exports have increased more than 12 times over, outstripping by two and one-half times the dynamics of production during the same period, with constantly over 50 percent of production during the last decade going to exports.



Today, Romania is the seventh-ranked producer of tractors in the world behind Japan, the Soviet Union, the United States, Italy, England and the FRG. Currently, diversification efforts are directed towards completing our export list, with priority placed on low- and medium-powered (26-65 hp) models and high-powered types (65-180 hp), with the results obtained in this regard being also reflected in the participation of the "UNIVERSAL 850-1010" series at this fair.

New confirmation of the high technical level of Romanian tractors was recently obtained following the tests carried out at the Nebraska Tractor Test Lab in the United States. Thus, in the 20 to 40 hp class, the UNIVERSAL 350 tractor (the Long 360 - the commercial trade name brand) placed sixth among the 30 types of different tractors tested in this class, according to the energy efficiency of the tractors during use. Similarly, using the same indicator in the 40 to 60 hp class, Romanian UNIVERSAL 530DTC and UNIVERSAL 445 tractors placed sixth and seventh, respectively, out of the 32 types tested.

The clear advantages given by the increased energy efficiency during the operation of these types of Romanian tractors represent an excellent argument in promoting them on the international market, especially since there are numerous geographic regions where specific conditions require the use of small- and medium-sized tractors.

The bringing together of all of the branches of Romanian industry on the occasion of this fair clearly illustrated the scope of automation and the use of cybernetics present at all levels of material production, beginning with scientific research - the main force in production during the current stage - and continuing into design work with the help of specialized hardware and software systems for this activity. Later on, this also involves the management of industrial processes, including automated lines and flexible systems, machine-tools served by industrial robots, and right on to the wide range of medical diagnosis and treatment devices supported by electronic systems. In this regard, we can note the electropneumo-hydraulic production method achieved through international economic cooperation between the Arad Machine-Tool Enterprise and the NPKR Enterprise in Stara Zagora, Bulgaria, which is composed of parallel lathes having and inclined bed using numerical command and industrial robots, the automated brake drum processing line and the flexible system for prismatic parts - a model presented by the Bacau Machine-Tool Enterprise.

Reviewing the broad range of computer systems for production management and for diverse information applications - which we covered in a previous issue of this magazine -, we will note this time several of the medical electronics achievements: a respiration monitor, an oxygen monitor, an ultrasonic aerosol device, diadin and interdin equipment - devices for electrotherapy, a portable electrocardiograph, a laser biostimulator and a hemodialyzer (a renal hemodialysis device), with most of these produced by the Enterprise for Automation Elements. The new Bucharest microelectronics enterprise presented, among others, the MADS system (a multiple applications development system). Electronics was also present in the production of the Medical Technology Enterprise in the achievement of new anesthesia equipment and other medical devices, as well as in all machine-tools for processing metals, in equipment for the chemicals industry, geology, communications and so forth.



One significant indicator of the competitiveness of the products presented by Romanian companies at the 1986 fair also was the important export contracts concluded right from the first days of the fair. Thus, by the completion of this issue of our magazine the machine-building branch had concluded sales of machine-tools to Bulgaria, Czechoslovakia, the GDR, Yugoslavia, India, Italy, the Soviet Union, Spain, Syria and the United States; automation equipment, computers and electronic equipment to the Soviet Union, Bulgaria, Czechoslovakia, the GDR, the PRC, Hungary, England, France, Iraq and Libya; bearings and electric motors to Czechoslovakia, the GDR, Poland, the Soviet Union, Hungary, France and India; tractors, agricultural machinery and excavators to Czechoslovakia, the Soviet Union, Egypt and Switzerland; and textile machinery and technological equipment for the chemical, petrochemical, metallurgical and food industries to Bulgaria, Czechoslovakia, the GDR, the PRC, Cuba, Yugoslavia, the Soviet Union, France, Iraq, Pakistan, Syria and Turkey.

Continuing with exports from the machine-building industry, we can further note the contracts for railcars and locomotives with partners in Austria, Bulgaria, Hungary and the Soviet Union; trucks and autos (all-terrain and cars) with Poland, Hungary, the GDR and Mali; and ships and ship equipment with the Soviet Union and Czechoslovakia.

During the first days of the fair, export contracts were also concluded for metallurgical products, chemical fertilizers and medicines with companies in Australia, Austria, Columbia, Benin, the Ivory Coast, Belgium, Saudia Arabia, Bulgaria, Egypt, Kenya, Israel, Japan, Yugoslavia, the GDR, the FRG, Mali, Morocco, Holand, Pakistan, Peru, Hungary, Spain, the United States and Turkey.

Contracts for the delivery of consumer goods - furniture, clothing, textiles, leather goods and canned vegetables and fruits - were concluded with partners in: Czechoslovakia, Canada, Cuba, Bulgaria, Denmark, France, the GDR, the FRG, Italy, Yugoslavia, Israel, Iraq, Kuwait, Hungary, Sweden and the United States.

The promotional activities carried out at the Bucharest International Fair by the organizers - the Chamber of Commerce and Industry of the Socialist Republic of Romania and the Enterprise for Fairs, Expositions and Publicity for Foreign Trade "PUBLICOM" - and with the participation of the entire foreign trade system, certainly will continue to result in the conclusion of new import-export transactions and international economic cooperation transactions even after the close of the fair.

Just as important as the actual transactions is the direct understanding by foreign businessmen and industrial and commercial companies of Romania's current economic potential and the major restructuring that has occurred during these years in the entire structure of our foreign trade.

Only through an active strategy of promoting and marketing by way of a dynamic presence in the foreign marketplace can we attain the objectives established in the field of international economic trade and can foreign trade activities be improved in all aspects, a requirement stressed by comrade Nicolae Ceausescu at the recent conference on foreign trade problems.

8724

CSO: 2700/91

## OFFICIAL NOTES POLITICAL MOTIVES OF TU PLURALISM ADHERENTS

Warsaw TRYBUNA LUDU in Polish 5 Nov 86 p 3

[Interview with Rajmund Moric, chairman of the Federation of Trade Union of Miners, by Teresa Grabczynska: "Pluralism? -- We Have Experienced That For Ourselves -- Not a Single Argument Survives"]

[Text] [Question] Two facts seem to be logically connected. The current preparations for November's national conference of union delegates representing almost 7 million union members have vitalized the "activists" who counter the notion of pluralism with the concept of union unity. How should we interpret these concepts? To whom are they addressed and how will they be reflected in worker organizations?

[Answer] This challenge has not been made to better and more effectively protect the interests of working people and improve the economic situation. The proponents of union unity are more interested in creating a union structure that they can control.

If these people really had the workers' interests at heart, they would be better able to rebuild the union organizations, find a wider field of maneuver and get themselves elected to union positions.

Why has that not happened? Why have thousands of members of former Solidarity, and 60 percent of the federation membership once belonged to Solidarity, decided to take this step and why were their leaders unwilling to do so?

They chose to boycott but the tactic failed them utterly. The new unions not only came into being but they grew fairly quickly, gained strength and have changed everyday factory conditions as much as possible. Therefore, what was left for these "activists" to do?

The people who now speak out for "pluralism" face many problems. After all, they do not hide the fact that their participation within the union structure would entail their taking the leadership but the leadership in the reborn

unions has already been taken by others. Workers have already elected their representatives and given them a mandate of trust. It is therefore quite logical that if "first place" has already been taken in the present unions, then other unions are needed!

[Question] Let us be more precise -- did the activists of former Solidarity not want to take part in the new unions or did they not have any opportunity?

[Answer] The door to the new trade unions was and remains open to all. I do not know of a single refusal of membership and have seen many invitations. All anyone had to do was accept the offer of membership. But I do not believe that the old "unionists" were interested in working with the new unions. They are more interested in taking control of the unions to gain political power.

I would put the question differently: do we need union pluralism at our places of employment? I see no such need because there are already so many different organizational forms, so many branch and regional structures and so many possibilities and differences in the trade unions that this pluralism already does exist. It has only one limitation in that it must have the support of the workers and act for the good of the workers rather than work for ulterior political and personal motives.

[Question] However, those who talk about union pluralism are really thinking about political pluralism.

[Answer] That is true. People at their places of employment have already spoken out for a class union movement. They are for socialism and decidedly against its distortion. Workers do not want the sort of politics in the new unions that they saw 5 years ago. Instead of "politicians", they want to see earnest union officials pursuing worker concerns. The experiences of the last few years have denied any chance that the union organization will again become "politicized".

We remember quite well how these politics ended. It is enough to point out the example of our branch and the Szczycłowice Mine in which the miners were divided among themselves. Unionists were at each other's throats because some belonged to Solidarity while others were members of the branch union. Such divisions do not further worker unity and the lesson has made us all the wiser today.

[Question] And so, to whom is the slogan of other unions addressed?

[Answer] This slogan can draw attention to itself in just one instance and that is if the union organizations repeat the errors of their predecessors and alienate themselves from their members.

However, we have learned our lesson. The primary echelons of our movement have paid the cost for their authority and decisive voice and are answerable not to the government but to the union representatives. If someone really

wants to be a union activist, all he has to do is spend time among the workers, become familiar with their problems and gain the support not of the people at the top but of the union "grass roots". If he fails to do this, he will "burn out" quickly.

[Question] It does not seem to be enough to be with the people. One also needs to be able to solve their problems and above all, to be able to speak out for and implement workers' recommendations.

[Answer] And that is the only way we can win the workers' trust. It is not promises but results and work that will win support. Of course, it is true that a good knowledge of working conditions is useful but one must also have good access to administrative and party authorities. Union authority and the new mechanisms of social life have opened up the way to ministers and the premier and allow us to quickly give notice of difficult problems and work together to find ways to solve them.

[Question] Let us not forget the rather large group of workers that have still not joined the unions. Some of them are in no hurry at all to join.

[Answer] That is because they seem to be totally against trade unions of any sort. They have been put off both by the weakness of the branch organizations as well as by the brashness of Solidarity.

How do we win them over? Can we do this by our ever-improving activity alone? The answer to this is given by practice. In the plants where unions are important, they are lively and there is no problem that they will not take on. No one there even thinks about setting up another union because why should they?

Wherever the workers feel that their union is weak and inactive, they are most susceptible to talk about so-called healthy competition.

The only problem is that this "healthy competition" is pure demagoguery. After all, no one is preventing anyone from having their own views about the issues. It is enough to listen to a union meeting to see how different are the opinions and how strong the controversies. And we really need such competition in thinking, ideas, solutions and all sorts of proposals. However, if union official and entire organizations begin to compete, that is the first step toward personal confrontations and distortion of the ideals of protecting the working class's interests.

[Question] Therefore, is there not a single argument in favor of pluralism?

[Answer] How can one find a reasonable argument in the absurd? The advocates of pluralism call for pluralism not at all or further union goals but to receive financial support from the West. What they are offering people is just more trouble and division between workers and families. They are also pushing the interests of a small group of people over those of the entire

nation. We therefore have a better proposition: let these "pluralists" show the workers their union program.

That is why we what we have written into our program comes straight from the factories where we were elected. That is why not pluralism but unity is needed. Unity is what makes the unions more effective and outspoken.

12261

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## LOCAL PZPR CONFERS ON 'SOCIAL PATHOLOGY' BEHAVIOR, PROBLEMS

Olsztyn GAZETA OLSZTYNSKA in Polish 10 Dec 86 p 3

[Article by [Rs]: "How Do We Prevent Degeneration"]

[Text] Social pathology is a very broad term but it can be most briefly defined as a set of deviations from normal social life. According to statistics, the most socially harmful deviation is alcoholism. Every 5th crime is committed by a person intoxicated by alcohol.

In recent years, 60-100 percent of crimes against life, health, personal dignity, the family, property, state institutions and public officials have been committed by drunken individuals. Half of all violations of public order have been committed under the influence of alcohol. Alcohol has been a factor in about 30 percent of serious traffic accidents and is the dominant cause of thousands of domestic fights requiring police intervention.

This has been happening despite the growing rate of detection of crimes and misdemeanors as well as the harsher laws against crime. The plague of persons refusing to work has still not been eliminated and these same persons are the perpetrators of every third crime in our region. The cause of this failure to control such crime has been vague regulations. It is true that the number of illegal stills has been reduced but not the hang-outs that sell moonshine. Adolescent demoralization and crime is still a serious problem. Indeed, in the first 9 months of this year in contrast to the same period of last year, the percentage of general crimes committed by adolescents has dropped but unfortunately, the percentage of the worst crimes such as robberies, break-ins and sexual assaults by adolescents has gone up. Drug addiction among youth is also on the rise and this itself constitutes a considerable source of crime.

Aside from the classic forms of social pathology, an enormous amount of harm is caused by various forms of economic pathology such as speculation, dishonest personal enrichment in the private sector, poor work discipline, defective production, waste of materials, lack of thrift and destruction of property. Unique forms of pathology are also found in the activities of

various bureaus and other institutions and these include arrogance, lack of humanity, refusal to take responsibility and neglect of the law.

These problems were the subject of a meeting of the Executive Board of the Olsztyn Provincial PZPR Committee that was attended by the chairman of the Provincial Court, Ireneusz Olszta, and the provincial prosecutor, Ryszard Moszczynski who reported on the extent of this problem together with the director of the Olsztyn Internal Affairs Bureau, Col Kazimierz Dudek, who had previously worked with a commission to prepare the information presented at this meeting. The discussion concentrated on finding means to not only counter the effects of social pathology but also to determine its causes, of which there are many.

The signs of social pathology have multiplied due to the disruption of political, social and economic life in 1980-81. This brought about previously unseen anarchy in social life and the loss in many communities of respect for law, the socialist system of values and the norms of social life. The situation is again getting under control but the negative effects are harder and slower to eliminate. Here is one clear example. The health service in just one community in our province has had to deal each year with 500 cases of illnesses or accidents caused by the consumption of alcohol. The culprits most often make use of their right to free care as well as physician's permission to not work. Large sums of public money are lost in that way. And how are we to deal with cases of double standards? A teacher reprimands a pupil for smoking at school because regulations forbid that and then his mother protests, saying that he is permitted to smoke at home. In another case, a young man was for idleness and other offences ordered to do public work until his mother came and said: "I will pay the 50,000 zloty fine but no son of mine is ever going to work on the streets!".

These examples show how hard it is to control and prevent social pathology. They also show that the existing efforts should be reinforced. It is well known that the efforts should begin at home, in preschools, schools, the place of work and the universities. Often, nothing is done about crime in one area because people react passively rather than intervene. Not far from the Provincial Internal Affairs Bureau, some young people were tearing saplings planted along the street right under the eyes of a group of people waiting for a bus and no one reacted at all!

First Secretary of the Provincial PZPR Committee Tadeusz Jelski said that: "The control and prevention of social pathology in our communities must receive greater attention from the primary party organizations which should at least once a year hold a workshop on these problems".

12261

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POLITICS

POLAND

BRIEFS

CUBAN AMBASSADOR VISITS KRAKOW--Mayor of Krakow Tadeusz Salwa was visited yesterday by the Cuban ambassador to Poland, Martin Mora Diaz. The mayor informed his distinguished guest and the current problems and growth of our city. Ambassador Diaz took a lively interest in the cultural life of Krakow which is well known in Cuba for its role in Polish culture. They talked about the problems of improving the state of the natural environment and of protecting historical buildings. [Text] [Krakow DZIENNIK POLSKI in Polish 10 Dec 86 p 1] 12261

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## VIEWS OF MAJOR TRANSYLVANIAN POET DISCUSSED

Bucharest LUCEAFARUL in Romanian No 49, 6 Dec 86 p 3

[Article by Marian Vasile]

[Text] Cosbuc's preference for classical literature is well known: his tastes were directed less to modern literature and not at all toward modernism (then represented by the symbolist current). In the program article entitled "Truth in Art" (1896) the beautiful coincides with the truth and what is good: "No matter now much the schools (editor's note: symbolist) are tossed around, the supreme power of art always will be truth." "And truth in art is one with the beautiful." In another article about Goethe (1897) he was inclined to judge the masterpiece as an expression of the national, collective genius, such as "The Illiad," "The Odyssey" for the Greeks, Shakespeare's dramas for the British, Goethe's works for the Germans, regardless of who composed them, one author or more than one.

However, it should be noted that the predilection for ancient poetry is one of a scholarly, refined taster, a fact also proven by the translator Cosbuc's activity from Dante, Virgil or exotic literature like Sanscrit. Cosbuc did not seek stiff classical set-ups in the ancient texts but rather an ingenious poetry on the way to disappearing, one which is superior to modern poetry. In this regard his articles on popular literature are graphic; in many of the ideas formulated a precursor to current folkloric science appeared (understood as such by Adrian Fochi, D. Pop, Al. Dutu).

In "Elements of Popular Literature" (1900) he interpreted the folkloric structures as versions of archaic, cosmogonic myths. The theory came along to alter the amateurishness of the Romantics, of Alecsandri, for example, when he asserted that the popular poetry was "full of originality and incomparable in foreign literature." In Cosbuc's reply, the sense of originality is turned about to etymological (beginning-origin, primary): "Originality, yes! They are original because they are ancient, they are primitive concepts, they are the common background of the Aryan race. They are common to all peoples, so they cannot be incomparable in foreign literatures." Riddles also have their origin in myth, while "Our Carols" (1903) were once "solar songs." This view sounds like the modern theories, particularly the works of Mircea Eliade, particularly when he opposes the folkloric structures based on a mythical scenario to the modern literary forms, which are excessively rationalized: "What we think is absurd is absurd only because we are used to thinking in a scholarly way with logical

arrangements and because we have worn away our fantasy. The illiterate man thinks in another way and has a more vivid imagination."

Formulated somewhat in a rigid way, the idea excludes any originality in folklore, both in content as well as form. But the modern folklorists find that the universality of motives, the stereotype (a term used by Cosbuc himself) of outlines do not exclude originality of expression in the national way of speaking, a fact which also justifies Vasile Alecsandri's assertion. Also, in later essays Cosbuc felt the need to introduce shading: In "Popular Ballads" (1904) he began to permit more than one level: an Aryan background, one common to the Balkan nations and one "specifically national Romanian." In addition, he admitted here (as well as in "The Birth of Proverbs," 1903) that "any popular poetry, be it a doina, a rhapsody or something else, is woven by a single poet" or "by a single person from among the people, while the people spread it." As A. Fochi remarked, George Cosbuc described precisely the aesthetic structure of proverbs, their form, "the stereotype, crystallized," based on conciseness, rhyme, paradoxical phrases, contrasts, logical oppositions and so forth.

Strangely, but significantly, the more modern lines appear to him to be inferior artistically compared with the ancient, archaic ones, which were full of a mysterious, subtle poetry which became lost with time. Perhaps it would be useful to relate Cosbuc's very lyrics (sometimes explained by realism, an objective description) to this magic of expressions from popular poetry which he sought, he discovered with much taste and intuition, trying to restore it to his verses. Even more curiously, precisely this archaic layer was demanded by Cosbuc for its age, stability, its beauty, as a specific national background, opposing it to the "changes in fashion," to the "monkey shines" of cult literature, as it was perceived by "the ten thousand higher-ups." So it is not a contradiction between the theoretician of mythical folklore and the initiator (or one of the initiators) of the native current in our literature of 1900, through the journals he headed: "Vatra," (with Slavici and Caragiale), "Samana-torul" (with Vlahuta), "Literary Life," (with Ion Gorun). In the latter, Cosbuc became more open to innovations, to diversity and proposed a more eclectic program which would not demand "any constrictions or restrictions on talent and where no signature involved another one."

Another group of very interesting ideas from the current angle are included in his linguistic articles. In "Conservative and Revolutionary" (1897) he found that there were languages--among some Australian tribes--which changed completely in 50 years so that one generation could not understand the generation before it. On the other hand other languages are conservative. G. Cosbuc asserted that they were subject to the same psychological laws. The factors favoring the change were the space "which separated a nation" and then time with reforms, scientific, ethical and political progress and contact with other nations. The conservative force would be tradition, the national pride, particularly literature, which fixes the ideals of the nation and the norms of language, obstinantly excluding neologisms. The value of a language grows through the value of its literature. The examples are Latin and Hebrew. The Asian languages change fast, since they do not have a literature. If they did they would become "conservative," as is the case with Sanscrit, which is interesting and worth studying, but the conservatism of literature does not lack other risks, primarily the risk of isolating itself from the living language. So Latin has remained a dead language, with the living languages evolving toward modern Roman ones. Hebrew is the same, with its people having taken on the languages of the other nations among which they live for their daily lives.

Modern theories feel it is the other way around, that the literary language, through metaphoric production, is the one which provides the impetus for the people's languages, the more traditional one. Perhaps this is justified by the modern literatures, which propose lexical innovation programmatically. However, in linguistics there are two different currents. One extends from Vico le Levy-Bruhl and concludes that the languages of the primitive cults are purely symbolic, metaphoric and, thus, individual, not stationary. The second, more recent one maintains that the primitive languages are abstract, while the symbolic, individualizing ones follow. Here the examples are the etymologies of Benveniste. Less rigidly, Todorov believes that the production from human languages in any age reflects both functions--abstract and specific--the one from communicating, which is more stable, and the other, from creating, which is more dynamic.

Cosbuc's theory would take its place in such a complex view: languages also change through literature but also through other circumstances, pointed out to us by space, time and so forth. Literature can be conservative, as it truly was in the eras mentioned, but in a moderate concept it must combine the necessary conservatorism with innovation, which is just as necessary, which would keep it in contact with the people's living language. Cosbuc's journalism abounds in suggestions, profound ideas, and should be utilized better.

8071

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## PSYCHOLOGICAL, SOCIOLOGICAL EFFECTS ON CONSTRUCTION WORKERS

Bucharest VIITORUL SOCIAL in Romanian Nov-Dec 86 pp 526-532

[Article by Corneliu Cartina: "Psycho-Social Factors for Integrating the Workforce in Construction"]

[Text] The carrying out of the objectives called for by the decisions of the 13th RCP Congress requires the accentuation of the qualitative facets of Romanian economic development, the better use of social labor and the growth of labor productivity in all sectors of activity. As comrade Nicolae Ceausescu stressed in his speech to the Third Workers Congress, "keeping in mind the huge sum slated for investments, decisive measures are necessary in all sectors for the good, maximally efficient management of investments and for the reduction of investment costs and growth of the efficiency of each leu invested." The attainment of these objectives requires each central, enterprise, scientific research and technological engineering unit, and design unit to have a permanent concern for the broad-scale introduction of technical progress and scientific advances in all fields of activity, for the use of the newest forms and methods of organizing and standardizing production and labor, and for the improvement of the workers' professional training.

For the field of construction, the fulfillment of these requirements has as its purpose the intensification of the rate of the growth of labor productivity during the 1986-1990 five year plan so that in 1987 it will be 1.75 times greater than in 1980, and in 1990 twice as great compared to 1980. Doubling labor productivity in a short period of time requires rigorous research, diagnosis and making decisions for each technical, economic or social factor which can contribute to attaining this goal.

Beginning with these considerations, this paper proposes to present, in a summarized form, the results of sociological research in which the problems of labor productivity were treated from the perspective of the relationships between man and his working and living conditions. The significance and importance of this relationship ought to grow in accordance with the new requirements imposed upon human resources to increase their contribution to the achievement of the tasks of the construction and assembly units where they work. This research was carried out in construction and assembly units of the Ministry of the Construction Industry at worksites belonging to the Bucharest Central for Industrial Construction, the Iasi Industrial

Construction Trust and the Timisoara Industrial Construction Trust. The population studied on the basis of primary evidence covered workers during the period 1980-1984. The population investigated on the basis of interviews covered workers and management personnel (engineers, specialists, technicians and brigade and team chiefs) representing 21 percent of the total number of workers in these units. Similarly, investigations were carried out on the basis of questionnaires across representative levels among the ranks of students at construction schools and specialized professional schools in Bucharest, Iasi and Arad.

The importance of such a treatment stems, on one hand, from the strong correlation of the factors of technical progress and organizational progress (the main factors for increasing labor productivity mentioned in literature specializing in this field) and, on the other hand, from the complexity and difficulties of measuring and evaluating certain factors and their effects, such as: the organization of production and labor, the psychosocial factors of work and social environments, the expansion of specialization, the improvement of organizational structures, the growth in the degree of regularity in working on projects, the reduction of worker turnover and the improvement of the worker moral and material pay and incentive systems.

Limited to this theoretical framework, the purpose of the research was to study the relationships between the organization of construction-assembly activities and the socioprofessional structure of the workforce for the purpose of identifying possibilities for increasing labor productivity by improving this structure, improving qualifications, reducing turnover and better organizing labor. The objectives subsumed to the attainment of this goal were the following: the analysis of how adequate the workers' socioprofessional structure is at the worksite in meeting the technical-organizational requirements for doing the job; the analysis of changes that have occurred in the workforce structure with regards to volume and qualifications; the analysis of the workforce stability/instability phenomenon in construction from the perspective of identifying the factors which lead to manifestations of worker turnover.

#### 1. Workforce Stability/Instability

Without dwelling on the determining factors of the turnover concept themselves, it must be stated that the act of leaving or changing jobs at the unit at one's own initiative is preceded by an earlier stage, identified by a latent or potential state of turnover. In this stage, under the impact of general and regional factors the particular factors specific to the unit (level of technical equipment, particular nature of the content of the work, integrative capacity of each unit, work climate, interhuman relationships, management style and so forth) and the individual factors (level of interest and aspirations, level of satisfaction from work and so forth) come into play, structuring and restructuring opinions, attitudes and behaviors. Within the framework of this process, the individual decides his own behavior - to change sooner or later, or not to change his job.

Analysis of personnel moves with the construction units that were researched over a period of 5 years (1980-1984) brought out the fact that personnel who

left by way of turnover represented between 5 and 28 percent of the total number of workers. In these same units at the 1984 level, the level of latent turnover was between 20 and 32 percent, exceeding the actual level of turnover.

We found that a sufficiently large percentage (38 percent) among the ranks of those who intended to leave a unit were qualified workers having many years in their skill and in the unit (over 10 years). Similarly, significant numbers were also found among qualified workers with less seniority, but with relevant experience for the adaptation-integration process in construction activities: 4 to 6 years (15 percent) and 7 to 10 years (23 percent).

In this regard, correlational analysis pointed out the direct and statistically significant link between seniority in work and the level of qualifications on one hand and the intention to leave the unit on the other hand.

The statements of workers who intended to leave the units where they worked indicate that they are encountering difficulties on the job due to their carrying out tasks that are not specific to their skill or are specific to unskilled labor, a fact which negatively influences the amount of income obtained and, because of this, something which the workers evaluate as inappropriate in relation to the efforts that they made.

Thus, there is a clear casual link between the relationship of leaving and the opportunity for a better use of their work skills in other units where it is felt that the job demands will correspond to their qualifications and level.

Among the social factors which can set in motion the turnover phenomenon, our research identified the factor of nearness of a stable place of residence, a factor which holds second place in the hierarchy of the motivational structure of potential job-changing workers.

Analysis of the indices of turnover in relationship to the geographic area for the recruitment of the workforce revealed that in those geographic areas where the recruitment of the workforce was highly restricted (79 percent) to the neighboring counties (the Iasi enterprise), the actual turnover indices and the percent of turnover in the total number of those who left their jobs were lower compared to those for the Timisoara enterprise, where the geographic area of recruitment is larger (61 percent of the workers come from counties located outside the neighboring regions of the worksite). This fact has negative repercussions on the number of personnel moves, in the sense of diminishing the size of the workforce (at the Timisoara enterprise this decrease is especially significant).

Relative to a permanent place of residence (as a positive environment), we found a trend where with regards to the closeness of the place of residence of the potential job-changer, the percentage of those with a permanent residence in the locality where the enterprise is located and who intended to leave their job is 10 percent less than the percentage of those who have permanent residences in other localities. Furthermore, in the hierarchy of workers' personal problems the largest percentage (22 percent) is due to

problems concerning housing and family. Approximately the same percentage (20 percent) is also found in the hierarchy of main reasons for potential job-changers to leave their jobs.

Table 1

(in percent)

Enterprise	Area of Recruitment				Percent of Turnover in Total Departures
	Worksite Town	Nearby Towns	Other Counties	Turnover Indices	
Iasi	35	44	21	5	29
Bucharest	25	35	40	16	58
Timisoara	31	8	61	28	70

The closeness of a permanent residence as a motive which prompts a worker's departure from his unit is also present at approximately the same percentage in the opinions of management personnel regarding the causes of worker turnover.

#### Consequences of Turnover

Our research showed the following structural changes due to the failure to resolve certain dysfunctions of a technical-organizational nature and of interpersonal relationships having negative implications for labor productivity and the length of time needed to complete projects:

a. Changes in the job qualifications structure, in the sense of a significant decrease in the percentage of skilled workers in relationship to unskilled workers. Thus, while the major portion (79 percent) of the total number of those who left jobs were skilled workers, in the case of newly employed workers the majority who leave (68 percent) are unskilled workers. Since the portion of job-changers from among the ranks of skilled workers who actually left totaled 55 percent, the result is that an important cause of changes in the skill structure - in the sense that has been pointed out here - is the turnover rate itself. By reducing it, balance could be preserved in the planned skills structure in accordance with work demands, leading, at the same time, to an increase in labor productivity by efficiently using skilled workers and by avoiding the period when new employees are adapting prior to their full integration into new work groups, as well as the additional costs for training a large number of newly employed unskilled workers. Thus, this would also reduce the additional costs brought on by the departure of workers who earned their skills during their employment at the enterprise, with these workers representing 13 percent in the case analyzed (the Baneasa enterprise).

b. Changes in the level of skills, in the sense of a decrease in the number of workers at higher categories of employment (at the level of the losing unit), with their loss being primarily compensated by new hires having a lower level of skills: for departing workers the greater portion (57 percent) is of those in higher categories (III or higher), while for newly hired workers the majority (74 percent) are from categories I and II. These dysfunctions influence labor productivity and the level of worker satisfaction by having a disconnect between the category of the work and the workers' employment category.

c. Changes in the trade skill structure, in the sense of limiting the opportunities to provide the necessary size workforce for certain trade skills, especially for those that can also be used in fields other than construction. In this case, a reduction in turnover would avoid the appearance of certain shortfalls in trade skills from the point of view of providing personnel, thus creating the possibility for employment within the timeframes for carrying out a project.

d. Changes in the work seniority structure, in the sense of a decrease in the number of workers with professional experience.

Within the framework of the analysis of potential turnover, we found that the greatest percentage (38 percent) represented workers with over 10 years in the unit, a revealing length of time for the process of adapting and integrating employees into construction activities.

## 2. Use of Work Hours

Analysis of this indicator at the level of the worksites that were investigated had in mind the causal relationships which exist between the length of time to complete a project and labor productivity. This results in a decrease in production costs and an earlier start-up of the investment project, reducing, at the same time, losses brought about by having investment funds sitting idle.

The variables that were analyzed involve the objective and subjective (the organizational structure of each worksite) causes of the degree of use of work hours. Thus, analysis of the structure of the maximum time available over a 5 year period (1980-1984) at the enterprises that were studied, showed that the indices for actual time worked in man-hours, corresponding to the average scheduled number of workers, were between 91 and 98 percent - with the remaining amount (up to 100 percent) representing unused time.

A comparative analysis by each enterprise reveals the fact that in those 5 years the amount of time actually worked increased on the average from one to two percent and, correspondingly, limited the amount of unused time in the total amount of time available.

Within the framework of unused time, medical leaves accounted for a significant amount - between 25 and 67 percent - with the highest amounts being recorded at the enterprises studied in Bucharest. Analysis of disease factors showed that the principal acute or chronic illnesses among workers are respiratory and rheumatism.

Approved absences and leaves without pay accounted for less - between 15 and 23 percent - of the total of unused time. With regards to unjustified absences the figures were between 12 and 34 percent of the unused time. The highest amounts were recorded at the enterprises in Timisoara, a unit where we also found the highest level of turnover and where the workforce mostly comes from regions beyond the neighboring areas around the worksite.



The observations made at the worksites and the discussions with the workers and management personnel there reveal that the workforce is kept busy on an average of 80 percent of the time, with variations by trade skill from 76 percent to 88 percent.

The causes of the existence of an abnormal nonproductive time of approximately 20 percent were the following, according to the results of our investigations: difficulties related to supplying these worksites with materials and the quality of these materials, such as - "...the materials supply process is not regular and is unequal," "...the size of some materials does not correspond to the initial dimensions listed in the design plans," "...a series of materials are either completely missing or are in insufficient amounts." In addition to these factors, there were quality deficiencies in certain materials due to deterioration during transport, to poor construction on the part of the supplier, to deterioration caused by inappropriate storage conditions, to difficulties linked to supplying tools and devices under the category "small-scale mechanization," and to difficulties stemming from the movement of teams or certain workers in teams from one work project to another before the first one was finished.

### 3. Elements of the Problems in the System of Training the Workforce in Construction Through Specialized Schools

Since the most efficient form of training is recognized as being through specialized schools because of the judicious blending of theoretical and practical knowledge at an age of maximum accessibility, our research attempted to show a series of aspects in the training and preparation of students as future skilled constructions workers in technical construction schools.

The main conclusions of our investigations were:

- The work of attracting general school graduates to the construction field has some shortfalls at the school level - as a main factor for guiding and directing the students - as well as at the level of the other institutionalized resources (the press, radio, TV, enterprises and so forth), with the flow of information being left most of the time to certain informal channels: the family, relatives, friends, colleagues and others (as shown in the Table).

Table 2  
(in percent)

Source of information as stated by students	Type of School	
	Industrial High School	Professional School
School, School Guidance Office	20	18
Press, Radio-TV, Enterprise	26	14
Family, Relatives, Friends	38	68
Other Sources	16	--

The lack of activities to guide and direct general school graduates leads to a lower level of attraction of general school graduates to the construction field.

- For most students the construction technical high school represents nothing more than a means of continuing and ending their studies and not of practicing the construction trade skills. This fact is pointed out by the very large percentage (57 percent) of girls in level II of the construction technical high school - of which only 12 percent wish to stay in the construction field after finishing school. For boys, 21 percent wish to remain in this field.

- Among the current forms of student training, the most appreciated one was the professional school, which was recommended as the most efficient means of training for the construction field by 43 percent of the workers, 50 percent of the engineers and specialists and 50 percent of the professors covered by our research questionnaire. These evaluations are based on the fact that the graduates of professional schools adapt more quickly to working conditions at the worksite since they have benefited from better professional practice.

- Nearly half of the teaching staff that was researched felt that the school program at the high schools and professional schools for construction was inappropriate for the current work requirements at the worksite and 73 percent felt it was inappropriate for the requirements of the future. It was felt that there was a lack of agreement between the perspectives for developing the construction field and the dynamics of the training programs, with it being necessary to adapt them to the requirements of new technologies by way of moving towards multiple skills.

On the basis of this research a series of proposals can be formulated calling for ways and means to increase the stability of the workforce in construction, the degree of using work time and the training and skills of workers in the construction field:

- increasing the level of worker satisfaction by improving technical-organizational conditions which will bring about a growth in the level of work mechanization, improvements in material supplies, provision of an appropriate quality of materials and improvements in the supply of tools, devices and accessories stemming from small-scale mechanization;

- improving the organization of work by ensuring a correspondence between the workers' level of training and the degree of complexity of the work that is done;

- providing for an active personnel policy for attracting the largest possible workforce from the regions near to the worksite, so as to reduce the geographic recruitment region for the workforce;

- creating an organizational framework at the level of the construction enterprise in order to have an appropriate means of accepting and guiding new employees and, especially, young people; selecting newly hired unskilled workers for participation in training and multiple skills training courses on the basis of individual choices and recommendations made by the workers in whose care they were assigned;

- improving the flow to the worksites and jobs of those materials that are necessary and of the quality corresponding to the requirements of the production process for the purpose of increasing the degree of time worked by the workforce during each shift;

- optimizing the skills structure of the workforce at the worksite by way of ensuring a correspondence between the level of training and the complexity of the work that is done in the worksite; optimally sizing the work groups by ensuring a skill structure for them that corresponds to the categories and flow of the work that is to be done;

- providing a legal framework for institutionalizing multiple skills training in skills which, by virtue of the circumstances, the workers are already practicing, skills that will correspond to the flow of work operations listed in the technological processes;

- achieving a scientific recruitment and selection of candidates for professional high schools and schools in construction on the basis of certain aptitude tests and theoretical knowledge;

- improving the school programs by adapting them to the new construction requirements and separating training by specialties for levels I and II of high school and professional schools; and pursuing the manner in which practice is carried out so as to achieve cooperation between the technical personnel at the worksites and the teaching staffs which draw up these specialized training programs.

8724

CSO: 2700/112

## MEDICAL CADRES URGED TO COMBAT ABORTIONS

Bucharest VIATA MEDICALA in Romanian Vol 34 No 8, Aug 86 pp 187-188

[Article by Paraschiva Nicula, chief nurse at the Brasov Hospital for Obstetrics and Gynecology]

[Text] "It is easier to prevent than cure;" this adage, stated from ancient times, has not ceased proving, through practical verification, its universal validity. Furthermore, on some matters like that of abortions, the adage supplements its significance also through the useful, tangible effect involved in its materialization. Because prevention, or at least numerical reduction of this veritable pathology, apart from avoiding the inherent, intrinsic sufferings, also results in increase in the consecutive natural benefit, that is producing new human beings, future active factors of our society.

To the nurse in the Obstetrics-Gynecology wards, preventive activity seems less important. But this only is apparent, because a closer review of the matter shows that nowhere better than in this sector has the combat to reduce the number and gravity of abortions more chances of success. Here we also have at hand the most instructive and convincing examples, to accompany health education of young women.

However, abortion is a complex problem and therefore also the methods of combating must be tailored to the diversity of aspects encountered. Indeed, health education provided to the young women under our care must be differentiated according to the situations encountered: spontaneous or induced abortion, accidental or therapeutic abortion, but also according to the subjects involved: young, some single women, mature women, women facing their first pregnancy, or on the contrary, women having one or more children.

At the Brasov Hospital for Obstetrics and Gynecology we use corresponding measures for each situation, illustrating them with the examples which, we unfortunately, have at hand.

1. Spontaneous abortion, accidental or non-accidental, has, in most cases, known causes. We instruct our patients on these causes and on the modalities to prevent or eliminate them. It is important that the woman contact the specialized physician even before becoming pregnant or, at least, on the onset of the first threatening manifestations, in case of pregnancy. In these cases, we also do not neglect the baneful effect that might be caused by contraceptives, the way of life and diet, alcohol and tobacco addiction.

2. Therapeutic or requested induced abortion, like any surgery, has its inherent risk. This risk must be known and communicated to the women involved, either when these women report to the Commission on Termination, or, subsequently, when they are hospitalized for uterine curettage.

Coming to the Office for Combating Sterility are many young women who, after one or several abortions in their antecedents, decided to bear a child. Hence, they provide vivid and often convincing examples: following adequate treatments to eliminate the morbid conditions that would justify termination of pregnancy, and also following all the measures of prevention and protection, many of these women, under specialized supervision, produce healthy children, without endangering their own future. The women with several children can see, from some complications of abortion on request, that any time they incur a risk, which is by no means negligible, not only in terms of their own health condition, but also in terms of the fate of the children born earlier.

This attitude of persevering persuasion, displayed with utmost attention and gentleness, permitted us to convince many women that a new delivery is more natural, more beneficial and, at any rate, less risky to their health and to the integrity of the family. Backing this also are our exemplifications concerning the families that were left with only one child even though they would have had the possibility to have more children and to raise them; but sometimes they acquired this conviction only when it was too late.

3. Criminally induced abortion, recognized or not. It is generally known that many of the so-called spontaneous abortions actually are the unfortunate results of criminal abortions. In light of the great number and exceptional gravity involved in the complications of these brutal interventions, induced abortions constitute most serious female health problems. This is the stage in which the militant attitude of medium-grade personnel in the obstetrics and gynecology sections have the best results. By their activity they are directly instrumental in saving the lives of women that fell victims to their own ignorance, but also have the opportunity to impart to all those who experience this trial the awareness of the danger they would encounter in the event of another similar attempt (our practice showed that these same women resorted often to abortion, even if they did not always end in the hospital bed). In these situations, perhaps more than in others, concrete and differentiated exemplification plays a decisive role. The woman involved learns that many abortion interventions are fraught with maximum risk and almost always are fatal.

There is no dangerless methods for inducing abortion.

That is why all medium-grade personnel are allotted tasks of combating these harmful practices We are duty bound to fulfill this mission in the most conscientious manner, in both our specialized service and outside this service, in the family, in the collectivity, in our social relationship.

11710

CSO: 2700/116

## FORMATION OF PRONATALIST ATTITUDES IN YOUNG COUPLES

Bucharest VIITORUL SOCIAL in Romanian Sep-Oct 86 pp 448-457

[Article by Florin Ciotea: "The Formation and Education of Family and Socio-demographic Behavior"; passages within slantlines published in italics]

[Text] Being the most dynamic element in the evolution of human population, fertility as an effective manifestation of fecundity is the expression of the "procreative productivity" of a couple and of the human species. While the maternal genitor's fecundity (the biological power to bear children) is a natural given that involves conscious or volitive factors to a very slight extent (except for the cases in which physiological lesions that reduce or eliminate fecundity are produced through artificial, consciously motivated means), /fertility as a transformation of a potential into an act (product) comes under the social influence of the process of human reproduction to a considerable extent/. Being influenced by a large number of factors (demographic, social, economic, cultural, and psychological), the birth rate "has a great typological diversity over the globe, and within each particular country, its evolution exhibits significant trends in the context of general social and economic development." (Footnote 1) (Vladimir Trebici, "Populatia mondiala" [World Population], Bucharest, Stiintifica Publishing House, 1974, p 50)

### 1. Sociomedical Aspects of Human Reproduction

This "accumulation" of influences by the phenomenon of fertility can and must constitute the "terrain" for intervention by society in the numerical (quantitative) and qualitative evolution of human population. The promotion of multidisciplinary means of studying the field of factors and motivations that orient, determine, and finalize the procreative potential is of great social, biological, medical, and clinical utility. The physician will study the biological conditions for fertility, starting, as is but normal, from the data on the fecundity of the married couple, especially the woman. On this basis, as a practitioner and as a person called upon to promote life, he will act through his knowledge and the experience gained to facilitate the real and effective manifestation of the procreative capacity. Just as, psychologically, any normal couple wants children, likewise the gynecologist also normally welcomes this desire. But, in both respects, from the desire to the act, serious distortions occur. Some are of a purely biological nature (natural sterility, for instance, or certain chronic deficiencies in the state of general health

of the couple or of one partner), and in these cases, recuperative medicine has its say. This is an element that is often quite easily overlooked, drawing just collective psychological reactions that go from "pitying" a couple for the handicap, dramatic in itself, to the other extreme, that is, encouragement or "consolatory" cheering-up.

Certain motivations cultivated by the relatively low number of sterile couples (naturally sterile) seem to legitimate the minimization of the "recuperative efforts." This is due both to the couple's disinterest, by accepting the situation as inevitable or in a willing, deliberate, and conscious way, and to the physician's involvement in the face of the immense difficulty of facilitating, causing, and affirming life where the chances are often zero (the fear of failure is a disheartening and conservative anticipatory factor). The way in which the physician, as a scientist and a practitioner, intervenes to give life where the hopes are minimal, that is, to transform almost vanished fecundity or vanishing fecundity into fertility, constitutes not just a simple skill, desire, or ambition but a unique "art"---the art of converting "nothing" into life. It is a dramatic task, with failures and discouragement, but also with successes that match and surpass any other creative gesture and feat of human knowledge and action. You have to perceive the completeness that is felt by a couple apparently "damned" to not take part in the most natural, normal, and necessary thing in life, in order to admire in all its human magnificence the success of the physician---in "perfect" collaboration with those in question, of course. How can the social sciences support the physician's efforts in this limit situation? Apparently with difficulty, due to the erroneous and inexcusably common consideration of sterility as being from the start an anatomical or functional stigma, with infertility often being readily put in the category of organic sterility. Consequently, by knowing the biography of the married couples and their behavior right from the first stages of the marriage, sociopsychological research can offer information and conclusions useful to the physician. If, with the authorized physician's help, it knows the degree of infertility of the couple, social research can find social causes and influences that led to this situation, precisely in order to distinguish between an anatomical or functional "stigma" and a volitive, conscious one. The assertion is valid especially with regard to intentional sterility (temporary and recoverable) and infertility that is not conditioned by sterility. The act of evaluating through sociopsychological case studies the outlook and behavior of the couples in a situation of this kind, the influence of relatives, friends, and coworkers, the living conditions and resources, as well as the choices, aspirations, and attitude regarding their own existence and its sense and meaning constitutes useful support in remedying the temporary handicap. The sociologist and the psychosociologist have the duty to encourage, to give hope---through specific arguments, of course---and to strengthen the will and the "fight" for success.

However, the involvement of sociological research is far more valuable, it even being a necessity, when it is a question of normal couples from the viewpoint of fecundity and fertility. For a sociologist, the expectations are posed in a twofold sense: on the one hand, accepting procreation as natural, and necessary, from the viewpoint of life and, on the other hand, accepting the real manifestation of human self-reproduction as being necessary for major



social and political reasons (of course, the attitudes depend on the contexts specific to the demographic policies: pronatalist or restrictive). Regarding our party and state's demographic policy, firmly oriented toward the effective promotion of growth in the birth rate, it is necessary that all material and cultural resources and means be concentrated in this direction.

From this perspective, sociological research has a special role regarding demographic or procreative behavior, this playing an essential role in raising the birth rate, if we consider the strongly generalized homogenization of the material and spiritual living conditions on a national scale, along with the "bonuses" or special, privileged services (a natural, profoundly human act in this context) provided to stimulate the birth rate. The fact that the processes of contemporary social development, especially in the socialist society, presuppose the devising of overall (national) and/or departmental and sectorial strategies according to certain scenarios considered plausible and optimal and require these "demographic projections," has a causal explanation, in the sense that the human individuals (regarded as population) forming the active subject (conscious carriers) of social action also constitute, equally, the "recovered result" ("enriched" subject) of development. If we imagine general social development as a circuit, it will not be hard for us to see at once that, among the central elements (indispensable under any condition) of the "inputs" and "outputs," man (the population in our case) constitutes a permanent element, without which the circuit shuts off, stopping development.

/Depending on the "register of strategic choices," the population is integrated into social control of development. The social "regulation" of population growth thus constitutes an objective necessity, which is assuming more and more the appearance of a social law/. Under these conditions, the pronatalist policy establishes the scope and urgency of its goals according to the economic and social requirements dictated by the development in prospect, militating for as constant growth as possible (optimally "planned") in the birth rate, precisely in order to avoid the impact of varying "natural increases" on the work force and the total volume of population in certain future stages of development. Sociological and demographic studies have detected what dysfunctional effects varying increases in the birth rate over certain intervals of time can have on social life, in the sense that they can "disorganize" otherwise well-substantiated development programs. Let us take just one example: Unequal increases in the birth rate lead to inequality (numerical) in the school cohorts in various periods and various areas, which has as a hidden side dysfunctional situations regarding the number of classes of pupils. There are years in which the first grade contains the equivalent of four classes of pupils (parallel), and in other years, at the same school, it is hard to form even a single class. Hence too the problems with which the teaching personnel are confronted, the difficulties in solving them, the human effects caused, etc.

The "overturning" of the models or scenarios for the work force as a whole and according to sectors is often extremely sudden due precisely to the differences in the rate of growth (or decline) of the birth rate. Of course, they are general problems of the sociology of sociohuman development, but they are

largely determined by the demographic behavior of the population in general and of procreative married couples in particular.

## 2. Characteristics of Demographic Behavior

The notion of "/demographic behavior/" as such is as necessary and useful from the perspective of social knowledge and action as it is vaguely defined. The definition's specific facets are often restrictive and limited, correlating only the couple's attitude toward its own reproduction and toward family size. On another level, the correlation involves the conscious (voluntary) or "unconscious" character of the attitude of married couples.

"Demographic or procreative behavior," asserts an expert of great prestige and authority in contemporary demography, "is a married couple's attitude toward its own reproduction, that is, toward family size. Primitive or natural behavior is characteristic of a couple that does not apply birth-control methods; conscious behavior is associated with a couple that applies family-planning methods--contraceptive or abortive methods--in order to determine the final number of offspring or to space out the births." (Footnote 2) (Vl. Trebici, op. cit., p 51)

Correct in their essence, such definitions can be improved by including more complex elements of a psychological, social, ethical, and political nature. Of course, it is a question of expanding the "cognitive register" of the meanings of the behavior of couples toward human reproduction. Therefore, when we choose an "operational" definition of demographic behavior from among its essential elements, a wide range of objective and subjective, endogenous and exogenous, personal (individual), family, and social factors must be included. We have in mind here the fact that any form of human behavior is a complex and multidimensional interrelationship of factors through which the individual or the social groups respond to "stimuli" caused by personal motivations or by outside pressure. In this regard, /demographic behavior is a complex notion that includes a set of needs, necessities, and interests, converted through the filter of consciousness into motivated attitudes. Characterized by complex motivational structures that take on interest in the form of beliefs (higher motivations), demographic behavior constitutes the synthesis of an interaction between personal interests and social interests, the conscious, intentional, and responsible action for harmonizing one's own requirements and possibilities with the needs formulated by society/. Consequently, besides elements of a cognitive, normative, and attitudinal nature, it includes many affectogenic elements, affective and emotional feelings, accompanied by volitive attitudes in relation to the realities converted into beliefs.

In general, any demographic behavior bears the stamp of cumulativeness and of the complex interrelations among the motivational, affectogenic, cognitive, and volitive structures, with a greater or lesser degree of conscientization. The knowing, internalization, and assumption of the table of values and norms, principles and rules of conduct as internal needs, as personal wants consonant with social expectations, inevitably place the formation and orientation of demographic behavior in the context of the socialization of the individual and the married couple. It is a question of the "socialization of procreative

interest" as a higher form of the conscious attitude toward the necessity of the natural (but self-controlled) occurrence of human reproduction and thus of growth in the birth rate. This refers both to the self-evaluation of their own attitude toward childbearing (personal, individual behavior and the couple's behavior) and to the manner of "sanctioning" the attitude of others. The importance of this element is all the more evident because, with the socialization and formation of the personality being a polyphase process with stages, it presupposes a laborious, long, and multivalent effort of education. /Pronatalist demographic behavior is thus a process which begins as early as the first years of life and which is crystallized through real effects in the optimal period for human reproduction, it being centered after this more and more on self-"judgment" of the pronatalist attitude and especially of the behavior of close ones (sons, daughters, nieces and nephews, other relatives, friends)/. However, considering precisely the processual nature of demographic behavior and society's capacity to orient and control it, especially through the educogenic elements, social research has the obligation to study the factors in socialization of demographic behavior, devising or suggesting on this basis both /means and forms of stimulative social control/ (in our case) and /ways of educogenic action/ which would facilitate the crystallization of a high pronatalist consciousness, exclusive of the situation, and which would turn up on the plane of the real life of married couples. Showing the human value (individual, conjugal, and social) of raising the birth rate, along with the critical indication of the danger of promoting abortive means of avoiding procreation both for the genitors (especially the mother) and for the family and society, social research reinforced by medical arguments, cooperating to the same end, can stimulate the process of forming an effective pronatalist attitude (quantitatively and qualitatively effective).

The register of sociomedical research is broad and complex, if we consider the profound behavioral changes that are occurring under the impact of modernization and urbanization. /The transition, clearer and clearer, from the traditional pronatalist behavior of a community kind, characteristic of the rural family, to a restrictive behavior, severely limited in many cases, is causing an "avalanche" of changes in the aspirations, choices, and attitude of married couples. The approach of the pronatalist views and outlooks, judged as natural and normal (volitively motivated and consciously accepted) and regulated on a community level (community control), to the traditional norms and values, and the sharing of the extremely rarely antinatalist restrictive and limiting views and practices, although the indicated cases must not be considered "unrepresentative,"/ are leading to novel and complex changes in the demographic attitude.

### 3. The Trends in Pronatalist Demographic Behavior

The sociological investigations made in this direction indicate many behavioral changes among young people and adults (individuals or married couples) as a result of the pressure of exogenous factors on the motivations and attitude regarding childbearing. Following the changes in demographic behavior from what we call "/latent behavior/" to "/manifest behavior/," it is possible to see the distortions that appear along the path of the life of individuals and social groups. Regarding "/latent demographic behavior/" as being, at least

in the premarital period, far more "independent" of the impact of the limiting exogenous factors and guided by aspirations and ideals unburdened by worries and problems of a utilitarian and pragmatic nature, we will observe /the predominance of far more marked pronatalist views at the early ages than in the ensuing stages of life/. The pronatalist latent behavior among young people or couples is all the stronger because it is less subject to the limiting and restrictive influences coming from various sources of persuasion (family, relatives, friends, etc.). /In actual fact, as the sociomedical research shows, the majority of the young people of premarital age, with significant differences sometimes between boys and girls and among distinct social categories, want to have offspring, regarding this as a natural act. On the plane of the general life and in the "life plan" of young people, the most important events (existentially important) in the personal biography seem to be conscientized as aspirations: a) the finishing of school and the obtaining of a socioprofessional status; b) marriage; c) procreation/.

It is all the more important to know the evolution of the latent behavior because we can deduce from its dynamics /"the projective pronatalist behavior" that refers to the desire, volitionally motivated and accepted, of young people to have offspring/. In the "models" or "scenarios" of the demographic projections, knowledge of the "projective demographic behavior" constitutes an extremely important subjective factor that, with certain precautions, can be quantified and integrated into the anticipative calculations as a determinative variable.

Bearing this fact in mind, in 1980-1981 we did /a study on the projective demographic behavior of unmarried young people and of married couples recently forming families/ (up to 3 years after the date of marriage). Below, more for methodological reasons, we will present some characteristics of the projective demographic behavior, intending in the future to extend this analysis through new research. (Footnote \*) (In 1986-1987, /the Sociology Laboratory of the Mures County Committee for Ideological and Political-Educational Activity, with the help of the branch of the CCPT [Center for Research on Youth Problems], of the County Center for the Study and Treatment of Disorders in Human Reproduction, and of the County Demography Committee, is doing a complex study on the formation of pronatalist demographic behavior in young people/.) The sample contained 150 boys and 150 girls in the 15-17-year age group and, respectively, 80 husbands and wives (couples) between 18-20 years of age.

The reading, even cursory and prudent, of the relative values that express the opinion of young people allows us to formulate conclusions (hypotheses in the limit case) regarding the orientation of the demographic behavior of young people who are approaching (biologically and socially) the time for establishing their own family and for procreation.

a. The /projective nuptial behavior/ can be regarded as favorable to marriage and unfavorable to singleness and celibacy in a percentage of over 87 percent, with big differences between the attitude of boys and that of girls. Thus, while 90 percent of the girls show a desire to establish a family through marriage, only 84 percent of the boys do, which expresses a more marked "egocentrism" within this category of young people and thus a higher degree of

probability of the unmarried phenomenon, with obvious repercussions on pronatalist behavior. The indices for evaluating nuptial behavior have higher values (positive) for children of peasants (97 percent) and workers (94 percent) and lower values for children of functionaries (84 percent) and intellectuals (88 percent), respectively. The imprint of the residential area exists and manifests itself in the sense that while 94 percent of the children in the rural area want to establish their own family, those in the urban area want to do so to a lesser degree, only 89 percent.

Table 1. Projective Nuptial and Pronatalist Behavior

Factual Reference Indicators		Nuptial Behavior (Establishment of Family)		Pronatalist Behavior (Children Wanted)			
				Do Not Want	1 Child	2 Children	3 or More
		No	Yes	Children	Child	dren	More
Sex	Boys	10.0	90.0	4.0	41.0	45.0	10.0
	Girls	16.0	84.0	7.0	48.0	38.0	7.0
Residential area	Urban (including suburban), total	11.0	89.0	8.0	47.0	39.0	6.0
	Rural	6.0	94.0	3.0	42.0	44.0	11.0
Social origin of the young people	Workers, foremen, technicians	6.0	94.0	3.0	40.0	52.0	5.0
	Intellectuals with higher education	12.0	88.0	5.0	53.0	39.0	3.0
	Functionaries	16.0	84.0	6.0	57.0	36.0	2.0
	Cooperative and individual peasants	3.0	97.0	1.0	28.0	64.0	7.0
Number of brothers and sisters in the family	Up to 3 children (inclusive)	6.0	94.0	6.0	42.0	44.0	9.0
	Over 3 children	5.0	95.0	5.0	47.0	40.0	8.0

b. In general, the /projective/ (anticipative) /pronatalist behavior/ is oriented toward the desire to have offspring (96 percent in the case of girls and 94 percent in the case of boys, respectively). However, there are big differences in the pronatalist behavior of the various categories of young people with regard to the number of children wanted. Negative behavioral reactions (the refusal to have children) are manifested by boys (7 percent, compared with 4 percent for girls), those in the urban area (8 percent, compared with 3 percent in the rural area), and children of functionaries and intellectuals (6 percent and 5 percent, respectively). Of all the young people who want children, 44 percent want a single child; 41 percent, two children; and only 9 percent, three or more. In such a situation, the pronatalist behavior, in relation to the requirements for reproducing the population, is tenuous, since in the case in which things actually occur in the future in accordance with the desires expressed, then nearly half of the young people in the sample will not contribute at all to providing for simple reproduction of the population. In this matter too, the impact of factors generated by the status of the young people is strong, with the desire to have a few children (two or more) being

stronger in girls, in children in the rural area, and in those of peasants and workers, respectively.

The analysis of the /pronatalist behavior of married couples/ offers a number of interesting conclusions that come to supplement the behavioral tendencies of unmarried young people. We give in Table 2 the structure of the choices of this category of young people.

Table 2

Independent Variables (X)	Number of Children Wanted (Y)					Value of the Coefficient of Correlation Between Variables (Pearsons)
	None (y <sub>0</sub> )	1 (y <sub>1</sub> )	2 (y <sub>2</sub> )	3 (y <sub>3</sub> )	4 or more (y <sub>4</sub> )	
Husband (x <sub>1</sub> )	20.0	20.0	48.0	18.0	18.0	r = 0.42
Wife (x <sub>2</sub> )	5.0	28.0	51.0	8.0	7.0	
Urban (x <sub>3</sub> )	6.0	25.0	60.0	5.0	4.0	r = 0.64
Rural (x <sub>4</sub> )	1.0	23.0	50.0	11.0	15.0	
Workers (x <sub>5</sub> )	2.0	21.0	52.0	12.0	9.0	r = 0.74
Intellectuals (x <sub>6</sub> )	6.0	26.0	52.0	11.0	5.0	
Functionaries (x <sub>7</sub> )	6.0	29.0	60.0	9.0	2.0	
Farmers (cooperative and individual) (x <sub>8</sub> )	2.0	20.0	46.0	18.0	14.0	

The correlation coefficients and the values of the different variables taken into "the explicative model" reinforce the hypothesis of the establishment of relations of interdependence, more or less close, between pronatalist behavior and a number of social indicators. /The social status of young people (married couples) constitutes a frame of reference around which "gravitate" certain "causes" and, in particular, motivators of the projective orientation regarding the pronatalist outlook and attitude/. Among the determinations of the social status characteristic of young married couples and each particular partner, the force of impact is greater in the area of reference of professional status, with the correlation coefficient being the highest ( $r = 0.74$ ), as well as residential area ( $r = 0.64$ ). The sex of the partners also has a slight influence on pronatalist behavior ( $r = 0.64$ ). The analysis of the motivators of pronatalist behavior and the matrix of correlation between different variables that affect it to a greater or lesser extent, but still significantly enough to permit some judgments, suggest /the cumulative character of the socioeconomic and cultural-educational factors and the connection between personal and/or family interest and social interest/. As is seen from the data presented, the projective (anticipative) behavior both in the case of unmarried young people and in the case of married couples is clearly dominated by the aspiration and desire to have children, with the percentage of those who refuse for various reasons being minimal (5.5 percent in the case of unmarried young people and 3.5 percent in the case of those married). The "antinatalist" behavior in these young people is determined by certain traumata present in the biography of the subject or the married couple. Thus, in the

case of unmarried young people, the great majority of those who have a negative interest in having offspring come from families with chronic disorganization (divorced or divorcing parents, alcoholic parents, parents with serious behavioral deficiencies, quarrels in the family, etc.), broken up, or about to break up. Quite isolatedly, some young people are "hostile" to procreation as a result of exogenous, nonfamily influences. Regarding married couples, the motivators for rejecting childbearing are generated and maintained mainly by intraconjugal factors (the state of the interindividual marital relations, a lack of long-term stability, the nearness of the breakup of the marriage, deviant conduct and views in some members of the couple, suspicion and mistrust, etc.) or premarital factors (the casual sort of marriage, with one of the partners previously not wanting this marriage, imposed in a way by personal circumstances or parental pressure). The social irrelevance of behavior unfavorable to any procreation in relation to the domination of the pronatalist attitude must not lead to the superficial and hasty treatment of such cases (individual or conjugal), as long as some young people and even married couples--extremely few, it is true--regard a child's presence as "a loss of their own independence" or as an element of "a lifelong contract with the partner," things that they also do not want. In the center of interest of our considerations, however, there are the motivators that influence pronatalist behavior in their gradual scope and depth. In these terms, /what are the "determinative" factors that, although not blocking the desire for procreation, nonetheless limit it when the problem of the number of children wanted is posed/? The investigations made on the two samples helped us to "construct" a "matrix of determination" or a "motivational matrix." presented in Table 3.

Table 3. The Matrix of the Coefficient of Association Between Various Motivators and Pronatalist Behavior in Young Married Couples

<u>Typology of Motivational Factors</u>	<u>Value of the Coefficient of Association Between Motivators and Behavior</u>					Rank (cumulative)
	<u>Do Not Want Children</u>	<u>Number of Children Wanted</u>				
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4 or More</u>	
<b>Endogenous;</b>						
Unwanted marriage	0.7	0.5	0.4	0.4	0.4	2
Desire for independence	0.2	0.1	0.2	0.1	0.1	5
Troubled conjugal relations	0.5	0.3	0.2	0.3	0.3	3
Desire to end married life	0.9	0.4	0.5	0.5	0.5	1
Mentality and outlook on life	0.2	0.1	0.2	0.2	0.4	4
<b>Exogenous:</b>						
Couple's incomes	0.1	0.2	0.2	0.4	0.4	2
Profession	0.2	0.3	0.2	0.2	0.1	3
Couple's financial condition	0.2	0.3	0.2	0.1	0.1	1
Influence of family and partner	0.3	0.2	0.2	0.1	0.1	4
Influence of relatives and friends	0.1	0.1	0.1	-	-	7
Influence of work staffs	0.1	0.1	0.1	0.1	-	6
Level of school instruction	0.3	0.2	0.2	-	-	5



Grouping the motivators according to the context to which they belong (endogenous and exogenous), it is noted that, of the limiting factors generated by the couple's biography (its domestic life), the desire to end conjugal relations (a potentially broken-up family), both as a result of a casual marriage (not wanted by at least one of the partners) and as a result of troubled conjugal relations (chronic), is the strongest ( $r = 0.9$ ).

Among the exogenous factors, the couple's financial situation, its incomes, and the profession of the partners have an important role in motivating the number of children wanted, although it is necessary for us to specify that the majority of the young people in this category believe that this obstacle is short-lived, in the sense that in a few years the level of economic independence of the family proper will rise considerably both as a result of the growth in its own income and as a result of the "acquisition" of the economical mode of family management and self-administration. In this case, consequently, the value of the index of association is very relative, not permitting the formulation of sententious value judgments. What is important at this level from the viewpoint of the analysis is the fact that the great majority of the couples are aware of the beneficial, stimulative purpose of the social measures adopted by the state to raise the birth rate.

#### 4. Conclusions and Proposals

Considering the particular complexity of the demographic processes, the decisive role of raising the birth rate both for society and for the family, along with correctly understanding the fact that the pronatalist measures are combined with the intervention of the medical, social-assistance, and educational-formative factors, the following are necessary: a) the promotion of multidisciplinary research on a county and national level regarding the pronatalist behavior of young people and adults, with its conclusions being utilized more systematically and constantly both in the specialized and cultural daily press and through the organization of scientific actions (sessions, symposiums, colloquiums, etc.); b) the involvement of sociologists and psychologists to a greater extent in the efforts of the physicians and medical and health services to prevent voluntary infertility and to restore the couple's capacity for procreation; c) courses that would involve methods, ways, and forms of pronatalist education for young people and adults should be introduced obligatorily into the system of continuing education for young people and adults, especially at the cultural and scientific universities and the local commissions for dissemination of cultural and scientific knowledge; d) at the level of each county, within the county demography commission, the formation of laboratories for multidisciplinary research on demographic phenomena, with the public participation of the various categories of experts; e) the stimulation and sensitization of the creators in the field of art and literature to create works that exercise through their message a strong pronatalist educational influence (novels, short prose, dramatic creations, musical compositions, feature and scientific films, etc.); f) the involvement of the institutions of learning and culture to a greater extent in the process of forming the natalist consciousness and pronatalist behavior; g) the securing of more systematic and constant cooperation by all the educogenic bodies with the mass and public organizations, the family, and the economic and social units for



focusing the convergent efforts on the national demographic policy's central objective, the growth of the birth rate and of the vigor of the younger generation; h) the publication of a demography periodical (magazine) that would stimulate the sharing of ideas on the phenomena of population, of demographic behavior, and of human reproduction and would provide for the education of young people for family life; the training of them in the direction of family planning; it would present on the basis of multidisciplinary and transspecific studies and research the evolution of the cultural models of demographic behavior (the magazine could appear as a quarterly, semiannual, or annual supplement to the periodical VIITORUL SOCIAL).

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## DIVORCE, REMARRIAGE IN URBAN, RURAL AREAS STUDIED

Bucharest VIITORUL SOCIAL in Romanian Sep-Oct 86 pp 467-476

[Article by Vladimir Trebici: "The Family, Stability, and Divorces"; passages within slantlines published in italics]

[Text] The individual life cycle ends with the respective person's "death," an irreversible demographic event; the family life cycle--we have in mind the nuclear family--is ended by the death of one of the spouses or by "divorce," a demographic event that can be followed by another demographic event, "remarriage," that is, a new marriage undertaken by one or both of the former partners in the earlier marriage.

Like marriage, divorce as a demographic event no longer has the dual composition: biological and social--as is the case of the events of "birth" and "death." It is a social act, above all, and its frequency within a population or subpopulation--the divorce rate--clearly reflects the complex influence of the social, economic, cultural, psychological, and other factors. Consequently, the divorce rate is variable: Its level is far lower in the population in villages, it is higher in the urban population, and within the latter, it has the highest levels in big cities. The divorce rate also varies according to socioprofessional categories and other significant characteristics.

Since divorce refers to marriage--a social and legal institution independent of the agreement of the two partners after undertaking the marriage--it cannot take place except on the basis of positive law or, in societies of an archaic type, on the basis of common law.

In Romania, these norms are contained in the Family Code of 1954, with the amendments introduced by Decree No 779 of 7 October 1966 and Decree No 174 of 30 July 1974. Some norms are also provided in the Code of Civil Procedure.

Divorce and the divorce rate, respectively, are strongly influenced by a number of factors, within which legislation and jurisprudence have a very important role, as will be seen from the examination of the evolution of the divorce rate in Romania. On the whole, however, the divorce rate--like the marriage rate--is determined by cultural models and submodels, into which many variables enter. (Footnote 1) (Vl. Trebici, "The Marriage Rate and the Cultural Model," VIITORUL SOCIAL, No 1, 1986) In connection with the legal

factor's importance in the divorce rate--as in other demographic phenomena--it is fitting for us to mention the famous saying from Roman law: "Quid leges sine moribus?" (in an interrogative form), that is, "What laws which do not take customs into account." The interpretation is twofold: The legislator must be mindful of the evolution of customs and outlooks and adapt the legislation accordingly. However, there is the danger that very liberal legislation may become a factor encouraging divorce, as many sociologists, jurists, and demographers remark--just as restrictive legislation may either become ineffective or generate tendencies to evade its provisions.

The divorce rate has a complex conditioning: The whole social context influences it in one way or another. On the other hand, it generates a number of consequences and implications. The study of the factors and consequences of divorce can only be multi- and interdisciplinary: Sociology, psychology, law, and demography are among the priority disciplines. Demography has its perspective, its field, its methods of investigation--most often, ones of description and less of analysis of this phenomenon. Its involves, above all, the determination of the amplitude of the divorce rate, the evolution of its characteristics in relation to the population subject to the "risk of divorce," and its consequences for the marriage rate and the fertility of marriages. A number of indices and methods are at its disposal: divorce rates according to various characteristics, methods of measuring the duration of a marriage ended by divorce, the mean and median age on divorce, the effects of divorce on the family life cycle, and, what is very important, divorce and the situation of the children resulting from the ended marriage. Consequently, the demographic study of divorce must have as a reference marriage, the family, and fertility; the systemic approach is thus required. As regards the causes and consequences of divorces, they cannot be detected and interpreted properly except through collaboration with other sciences.

The information that demography utilizes boils down to the two standard sources; population censuses and current demographic statistics (civil status statistics). The former provide data on /the distribution of the population according to sex, age, and civil status/ (unmarried, married, widowed, and divorced) for the national population, the urban and rural population, according to counties, etc. The latter offer us information on /the number of divorces/, also on a national level, for the urban and rural population, according to counties, etc., and the number of /marriages/, including /remarriages/. There is also other important information; most of it was published in "Anuarul demografic al Republicii Socialiste Romania 1974" [The 1974 Statistical Yearbook of the Socialist Republic of Romania]; detailed data on divorces have not been published since then. As regards the third source--/demographic surveys/--those referring to divorces are almost nonexistent.

Despite the importance of the divorce rate--as we will show below--the problem is absent from the literature in our country. In the last 30 years--to the best of our knowledge--only one article has been published. (Footnote 2) (I. Gandac and T.V. Birsan, "From the Divorce Statistics in Our Country," REVISTA DE STATISTICA, No 6, 1967) One brief paragraph devoted to the problem is found in a work published in 1982. (Footnote 3) (Vl. Trebici, "La situation demographique de la Roumanie," in "Natalite et politiques de population en

France et en Europe de l'Est," Travaux et Documents, Cahier No 98 (INED [Institut National d'Etudes Demographiques]), PUF [Presses Universitaires de France], Paris, 1982) How is this lack of appetite for the problem of the divorce rate explained? In the past 10 years (1976-1985), 33,162 divorces were recorded on an annual average, as compared with 182,403 marriages, which means that practically every fifth marriage ended in divorce; with a marriage rate of 8.2 marriages per 1,000 inhabitants, the divorce rate was nearly 1.5 divorces per 1,000 inhabitants. In 10 years, 663,238 men and women went from the "married" civil status to the "divorced" civil status. How many hundreds of thousands of minor children are put in the position of bearing the dramatic consequences of the divorces of their parents?

In the present article, we will attempt the most general description of the divorce rate in Romania's population on the basis of the above-mentioned statistical sources.

The mechanism of the divorce rate--as in the case of other demographic phenomena--presupposes /stocks/ and /flows/. The population exposed to the risk of divorce is the population having the "married" civil status; the flows are represented by divorces, usually taken as annual figures. Since divorces affect marriages, the batches of marriages represent the population exposed to the risk of divorce. (Footnote 4) (A batch of marriages--by analogy to a generation--means the number of marriages undertaken in a certain period, usually a calendar year.) A batch of marriages contains persons of the male and female sex of various ages, essentially a statistical distribution, which is characterized by an /intensity/, measured by the total rate of first marriage, and by a /calendar/, whose expression is the mean age at the first marriage. Consequently, the analysis of the divorce rate must take into account the batches of marriages and, within them, the offspring attained at different durations (number of children). The divorce affects the marriage at a certain time in its duration; the divorce rate, as a mass phenomenon, is characterized by a calendar, expressed [as published] by the average duration (in years) of a marriage ended by divorce, and the intensity is given by the total rate of divorces per marriage. Not all of these indices will be presented, partly due to the lack of statistical data as well.

Let us begin with the population having the "divorced" civil status, determined on the occasion of the population censuses.

Table 1. The Size of the Population Having the Divorced Civil Status in the 1956, 1966, and 1977 Censuses (According to Sexes)

Census Year	Total		Male		Female	
	Divorced Persons	% of Total Population	Divorced Persons	% of Male Population	Divorced Persons	% of Female Population
1956	173,870	0.99	42,402	0.50	131,468	1.46
1966	289,187	1.51	77,871	0.83	211,316	2.17
1977	422,674	1.96	149,259	1.40	273,415	2.50

One notes, in particular, the very rapid growth in the number of divorced persons and in their percentage in the total population.

Table 2. The Average Annual Rate of Growth of the Total Population and of the Divorced Population (in %)

Period	Average Rate of Growth (%)		Factor by Which the Rate of the Divorced Population Exceeds the Rate of the Total Population
	of the Population	of the Divorced Population	
1956-1966	0.9	5.2	5.8-fold
1966-1977	1.1	3.6	3.3-fold
1956-1977	1.0	4.3	4.3-fold

In the 1956-1966 period, the growth of the divorced population had a rate nearly six times higher than that of the total population. The explanation must be sought in the very high divorce rate in 1956-1966. Indeed, the divorce rate in the above-mentioned period was 1.82 divorces per 1,000 inhabitants, or 33,724 divorces per year on the average (67,448 divorced persons). It seems that in the 1946-1959 period, when we witnessed a "marriage boom," there was also a boom in the divorce rate, stopped by the legislation at the end of 1966. In contrast, the rate of growth of the divorced population between 1966 and 1977 exceeded by only 3.3 times the rate of growth of the total population, largely as an effect of Decree No 779 of 1966. For the entire 1956-1977 period, the rate of growth of the divorced population, 4.3 percent per year, exceeded by 4.3 times the rate of growth of the total population. The simplest illustrative extrapolation shows us that under the conditions of a 4-percent rate, the divorced population would reach about 700,000 in 1990, which would mean about 3 percent of the total population.

According to sexes, one notes a difference in favor of the male population. Although its percentage was 0.50 percent (1956), 0.83 percent (1966), and 1.40 percent (1977), compared with 1.46 percent (1956), 2.17 percent (1966), and 2.50 percent (1977) for the female population, the growth in the absolute number of divorced men was faster than that of divorced women.

Table 3. The Divorced Population According to Sex and Age Groups in the 1977 Census, 15-74 Years

Age Group	Men	Women	Divorced Women per 100 Divorced Men
Total	147,554	268,375	182
15-19 years	3,411	12,488	366
20-24 years	20,388	34,893	171
25-29 years	26,689	35,661	134
30-34 years	21,668	29,305	135
35-39 years	24,745	35,192	142
40-44 years	14,539	27,249	187
45-49 years	11,201	26,316	235
50-54 years	9,374	24,306	259
55-59 years	4,965	14,686	296
60-64 years	4,719	13,096	278
65-69 years	3,756	9,618	256
70-74 years	2,099	5,568	265

In order to understand this phenomenon, it will have to be said in advance that the chances of remarriage and therefore of participation in a few events of remarriage are far higher for men than for divorced women. As regards the situation according to social milieus, the proportion of divorced persons in the urban population in 1977 was about 2.9 percent, while in the rural population it came to 1.1 percent, with significant differences for men (lower) compared to women.

What is the distribution of divorced persons according to sex and age?

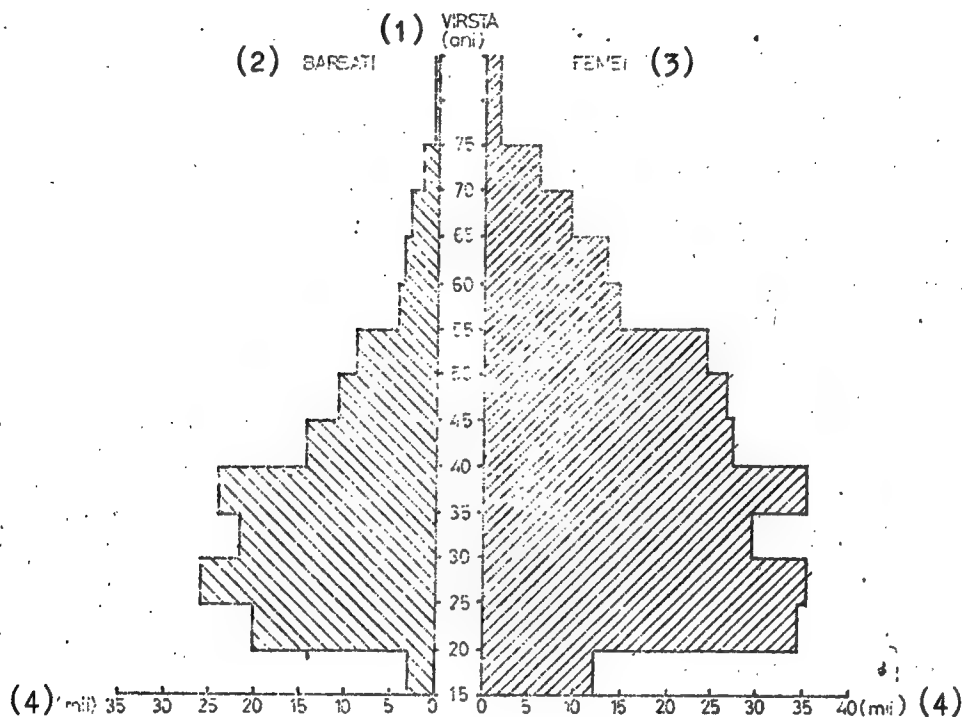


Figure 1. The Distribution of Divorced Persons According to Sex and Age Groups (1977)

Key: 1. Age (years) 2. Men 3. Women 4. Thousands

The mean age was 37.4 years for divorced men and about 39 years for women. If we also take into account divorced women in the "75 and over" age group, the mean age is higher. Let us not overlook the fact that in the 1961-1984 period the mean age at the first marriage was 25.22 years for men and 21.87 years for women, with a difference of 3.35 years. If the chances of divorced women on the "matrimonial market" (remarriage) were the same as for men, their mean age would be much lower. The divorced female population thus seems older than the male population; the probability of remarriage for women falls rapidly with age. Of course, there are also other factors.

The divorced population is fed by the annual flows of divorces and falls as a result of deaths and remarriages. Let us thus examine divorces and remarriages. In order to set a benchmark from the outset, we will say that in

recent years (1980-1984) the average number of divorces was 33,663, or 67,326 men and women lost the married status to acquire the divorced status. The gross divorce rate was 1.50 divorced persons per 1,000 inhabitants. In the same period, the average number of marriages was 173,606 (347,211 men and women obtained the "married" status, losing the "single," "widowed," and "divorced" status). Within the marriages, the number of men who remarried from the divorced civil status was 20,128, representing 11.6 percent of all men who got married in 1980-1984, and the number of divorced women who remarried was 17,669 (10.2 percent of all women married in the respective period). There were about 19 divorces per 100 marriages undertaken in the 1980-1984 period (approximately 1 divorce in 5 marriages).

How have these indices evolved over the years?

In the interwar period--we do not have data except for 1930-1940--the gross divorce rate was 0.55 divorces in the national population, 1 divorce per 1,000 inhabitants (urban population) and 0.28 divorces per 1,000 inhabitants (rural population).

The level of the divorce rate was very low in comparison with the current level. Nevertheless, it should be noted that the divorce rate in the urban population was 3.6 times higher than in the rural area, which is a prime indication in connection with the two demographic behaviors (in the present case, the divorce behaviors): urban and rural.

In the postwar period, both the marriage rate and the divorce rate had high levels, with a evolution that will be examined below.

Even in the early years of the postwar period, the divorce rate was at a high level, exceeding by 2-2.5 times the level attained in the 1930-1940 period.

Was there a "recovery" of the divorces postponed during the war years, just as we found the "recovery" of marriages and births? The response is affirmative. However, we must also bear in mind the fact that in the postwar period the marriage rate had unprecedented levels, which allows one to speak of a "marriage boom" (in J. Hajnal's sense) in 1946-1959 (Footnote 5) (Vl. Trebici and I. Ghinoiu, "Demografie si etnografie" [Demography and Ethnography], Bucharest, Stiintifica si Enciclopedica Publishing House, 1986, pp 88-103): A high marriage rate is ipso facto favorable to a high divorce rate. On the other hand, a high divorce rate influences the marriage rate through remarriages from the divorced civil status.

The evolution of the divorce rate in 1946-1985 was marked by the impact of family legislation. Its growth was systematic--with insignificant fluctuations up to 1966; record levels were reached in 1960 and 1962: 2.01 and 2.04 divorces, respectively, per 1,000 inhabitants (one marriage in five was ended by divorce). The number of divorces in 1967 was 48, as compared with 25,804 in 1966. There was then a rise in the number of divorces and in the divorce rate, slow in 1968-1971, then faster and faster. In 1975-1976, the divorce rate set a new record: 1.62 and 1.68 divorces per 1,000 inhabitants. This was undoubtedly the effect of Decree No 174/1974.

Table 4. The Number of Divorces and the Divorce Rate in 1946-1985

Year	Number of Divorces	Divorces per 1,000 Inhabitants	Divorces per 100 Marriages	Year	Number of Divorces	Divorces per 1,000 Inhabitants	Divorces per 100 Marriages
1946	21,536	1.36	11.6	1967	48	x	0.03
1947	19,561	1.23	12.6	1968	4,023	0.20	2.7
1948	17,867	1.12	10.0	1969	6,991	0.35	5.0
1949	21,337	1.33	11.5	1970	7,865	0.39	5.4
1950	23,941	1.47	12.6	1971	9,570	0.47	6.4
1951	20,273	1.23	11.9	1972	11,254	0.54	7.2
1952	23,379	1.41	13.8	1973	14,472	0.69	8.5
1953	21,868	1.30	12.5	1974	17,951	0.85	10.2
1954	28,582	1.68	13.9	1975	34,479	1.62	18.3
1955	31,148	1.80	15.8	1976	35,945	1.68	18.4
1956	29,142	1.66	14.2	1977	25,726	1.19	12.9
1957	33,091	1.86	16.2	1978	33,190	1.52	16.5
1958	35,384	1.96	16.8	1979	35,855	1.63	18.1
1959	30,937	1.69	15.9	1980	34,130	1.54	18.7
1960	36,947	2.01	18.7	1981	33,635	1.50	18.4
1961	33,373	1.80	18.5	1982	33,164	1.48	19.0
1962	38,095	2.04	20.6	1983	34,534	1.53	21.1
1963	36,129	1.92	20.7	1984	32,853	1.45	20.0
1964	35,145	1.86	20.7	1985	32,587	1.43	20.2
1965	36,914	1.94	22.5				
1966	25,804	1.35	15.1				

The later evolution is slightly variable, with a tendency to stabilize around the value of 1.50 divorces per 1,000 inhabitants; in 1984-1985, the trend was one of a slight decline. A prospective estimate is still premature; instead, the systemic interpretation stands out. Indeed, regarding the family and marriage as cybernetic systems, anomalies that disturb the system's homeostasis are produced within their functioning. The feedback effects (the divorce rate) "readjust" the system. Of course, it is a question of a hypothesis. Anyhow, the fact that many divorced persons remarry is proof that the propensity for marriage is strong: While divorces are the result of the failures of marriages, in return, remarriage tends to repair the matrimonial system.

What, in fact, happens to divorced persons? They automatically enter the sub-population having the divorced civil status (thus increasing the "stock" of this population); "remarriages" are fed from this category. As a matter of fact, the batches of remarriages are formed of the divorced persons from the "stock" of the divorced population and from the current annual "crop" of the batches of divorces. We do not know what the "waiting period" is for divorced persons before participating again in the "matrimonial market" (remarriages). In fact, we should know the following sequences: the duration of a marriage ended by divorce, the time spent by a divorced person in the divorced civil status, and the time of the beginning of the sequence of remarriage. We do not have information that we could obtain either by processing the official statistical data or through surveys. In the 1961-1966 period, when the



divorce rate was very high, the average duration of a marriage ended by divorce was 6-7 years and the mean age on divorce was 34-34.5 years for the husband and 30.5-31 years for the wife, with the same difference as for the age at the first marriage (about 3.5 years). Later, after the decline in the divorce rate (Decree No 779/1966), the average duration rose to 10-11 years and the mean age rose to 36.5 years (men) and about 33 years (women). In recent years, the trend has been approaching that in the 1961-1966 period.

Table 5. The Number of Men Who Get Divorced Each Year and the Number of Divorced Men Who Remarry Each Year

<u>Year</u>	<u>Men Who Get Divorced</u>	<u>Divorced Men Who Remarry</u>	<u>Remarried Men in Total Marriages (%)</u>	<u>Remarried Divorced Men Compared With Those Who Get Divorced (%)</u>
1957	33,091	23,242	11.4	70.2
1958	35,384	25,176	11.9	71.2
1959	30,937	22,720	11.7	73.4
1960	36,947	24,821	12.6	67.2
1961	33,373	24,024	13.3	72.0
1962	38,095	25,970	14.1	68.2
1963	36,129	26,510	15.2	73.4
1964	35,145	26,573	15.7	75.6
1965	36,914	26,399	16.1	71.5
1966	25,804	25,538	14.3	99.0
1967	48	14,368	9.3	—
1968	4,023	10,025	6.8	249
1969	6,991	8,679	6.2	124
1970	7,865	8,300	5.7	105.5
1971	9,570	8,094	5.4	84.6
1972	11,254	8,111	5.2	72.1
1973	14,472	9,711	5.7	67.1
1974	17,951	10,521	6.0	58.6
1975	34,479	15,573	8.3	45.2
1976	35,945	20,902	10.7	58.1
1977	25,726	18,598	9.3	72.3
1978	33,190	20,278	10.1	61.1
1979	35,855	21,111	10.7	58.9
1980	34,130	20,434	11.2	60.0
1981	33,635	20,562	11.2	61.1
1982	33,164	20,083	11.5	60.6
1983	34,534	19,587	12.0	56.7
1984	32,853	19,975	12.2	60.8
Total	747,504	523,885	10.6	70.4

As we said, a large number of divorced persons remarry. The remarriage of divorced persons is in competition with the remarriage of widowed persons, it being favored.

A general picture is obtained for the 1957-1984 period.

Table 6. The Number of Women Who Get Divorced Each Year and the Number of Divorced Women Who Remarry Each Year

<u>Year</u>	<u>Women Who Get Divorced</u>	<u>Divorced Women Who Remarry</u>	<u>Remarried Women in Total Marriages (%)</u>	<u>Remarried Divorced Women Compared With Those Who Get Divorced (%)</u>
1957	33,091	18,008	8.8	54.4
1958	35,384	19,787	9.4	55.9
1959	30,937	18,634	9.6	60.2
1960	36,947	20,477	10.4	55.4
1961	33,373	20,731	11.5	62.1
1962	38,095	22,926	12.4	60.2
1963	36,129	23,185	13.3	64.2
1964	35,145	23,668	14.0	67.3
1965	36,914	23,139	14.1	62.7
1966	25,804	23,176	13.5	89.8
1967	48	13,927	9.0	--
1968	4,023	9,833	6.7	244.9
1969	6,991	8,158	5.8	116.7
1970	7,865	7,795	5.4	99.1
1971	9,570	7,370	4.9	77.0
1972	11,254	7,380	4.7	65.6
1973	14,472	8,489	5.0	58.7
1974	17,951	8,987	5.1	50.1
1975	34,479	12,915	6.9	37.5
1976	35,945	17,482	8.9	48.6
1977	25,726	15,517	7.8	60.3
1978	33,190	16,752	8.3	50.5
1979	35,855	17,409	8.8	48.6
1980	34,130	17,565	9.6	51.5
1981	33,635	17,798	9.7	52.9
1982	33,164	17,938	10.3	54.1
1983	34,534	17,395	10.6	50.4
1984	32,853	17,647	10.8	53.7
Total	747,504	454,088	9.2	60.7

The data in the table allow a few significant findings. Let us mention that the remarriages from the "divorced" civil status are fed both from the divorced population (stock), found in this situation for some time, and from the batches of divorced persons in each year (the "current crop"). The situation is similar to that of the stock of fixed assets, with the annual inputs and outputs of fixed assets. Consequently, we also have a balance here: the difference between the annual divorces and the divorced persons who remarry. The difference established in relation to marriages gives us the /net marriages/; the difference between annual divorces and the divorced persons who remarry offers us a indicator of /net divorces/. For the entire 1957-1984 period, the balance was 221,619 men remaining unmarried (30 percent in relation to the total number of men who got divorced) and 293,416 women (40 percent). This is the unabsorbed stock of divorced persons who, in ensuing years, will change their status either through remarriage or through death. It is found that

this stock is bigger for women, as we saw, moreover, in the distribution of the population according to civil status. Women remarry with greater difficulty than divorced men; the higher male death rate, which causes the number of surviving women to rise with age, also represents an additional factor.

The "matrimonial market's" absorption capacity is dropping, however, under the conditions of the decline in the marriage rate--a trend beginning in 1978-1979 and one that will continue. Consequently, in relation to the annual number of divorces, the proportion of divorced persons who remarried was much lower in 1978-1984 than it was in 1957-1966. In the total marriages, the percentage of remarriages approached 11 percent for men and about 9 percent for women.

Let us conclude that the data do not allow us to assert that there may be a tendency to decline to remarry, or even to marry, as is found in many Western countries.

Let us see what characteristics the divorce rate has from a viewpoint of the urban and rural population and from a territorial viewpoint.

The variable character of the divorce rate is seen in the urban and rural population, as, in fact, that of the marriage rate. The level of the divorce rate was and continues to be higher within the urban population, as the data in Table 7 attest. (Footnote 6) (Vl. Trebici, "The Romanian Village and the Peasantry: Demographic Aspects," in "Satul romanesc, Studii" [The Romanian Village, Studies], Bucharest, Publishing House of the Academy, 1985, pp 88-89)

Table 7. The Divorce Rates in the Urban and Rural Population in Romania, 1930-1939 and 1948-1984

Years	Divorces per 1,000 Inhabitants		Factor by Which the Urban Rate Is Higher Than the Rural Rate
	Urban	Rural	
1930-1934	0.88	0.36	2.4-fold
1935-1939	1.89	0.51	3.7-fold
...	...	...	...
1948-1957	2.59	1.09	2.4-fold
1958-1966	3.56	0.98	3.6-fold
1967-1974	0.85	0.17	5.0-fold
1975-1980	2.32	0.82	2.8-fold
1981	2.37	0.72	3.3-fold
1982	2.29	0.71	3.2-fold
1983	2.33	0.76	3.1-fold
1984	2.24	0.67	3.3-fold

On the average, the divorce rate in the urban population is at least three times higher than that in the rural population. Of course, we must also bear in mind the characteristics of the calculation of the gross divorce rate, strongly influenced by the structure of the population, by marriages, etc. However, it is clear that we are dealing with two types of behavior with regard to marriage, divorce, and the family, which express the two cultural models: urban and rural. It may be necessary to investigate the contribution

of village-city migration to the marriage rate in the urban area, the contribution of remarriages, etc., which will be done on another occasion. It cannot be a question of homogenization in the divorce rate, as is the case for other demographic phenomena.

The evolution of the divorce rate in the two areas shows first the difference in level and also a diverging rate between the two curves in the 1957-1966 period. The rectification of the divorce rate in the population after 1970 was smaller in both areas: The extremely high levels in the 1957-1966 period were no longer being attained.

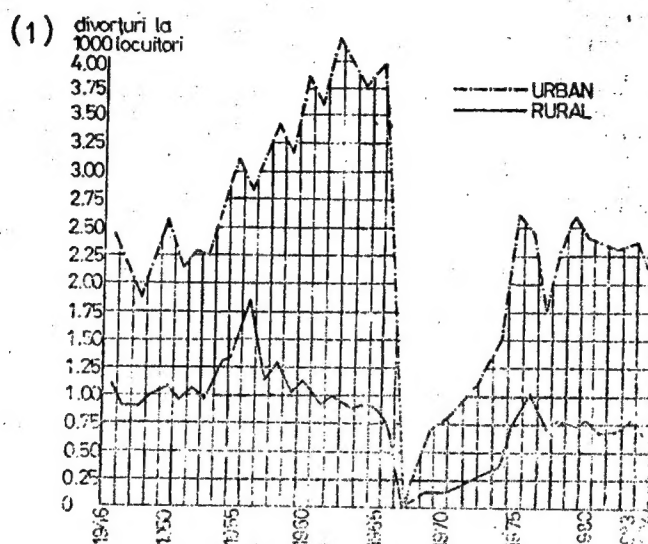


Figure 2. The Evolution of the Divorce Rate in Romania's Urban and Rural Population, 1946-1984

Key: 1. Divorces per 1,000 inhabitants

If, in the final analysis, the level of the divorce rate in the urban population can be linked to the factors that explain urbanization, then it is natural for the divorce rate according to counties and according to historical provinces to vary according to the level of urbanization and the proportion of big cities (the marriage rate and the divorce rate rise in relation to city size). Here [Table 8] is the situation of the divorce rate according to historical provinces. (Footnote 7) (Vl. Trebici and I. Hristache, "Demografia teritoriala a Romaniei" [The Territorial Demography of Romania], Bucharest, Publishing House of the Academy, 1986, p 82)

The lowest levels of the divorce rate are recorded in the provinces of Oltenia, Moldavia, and Muntenia; Transylvania and Crisana-Maramures have a middle position, and the highest levels are in Dobruja, Banat, and the municipality of Bucharest (2.5-fold, above the national average).

Of course, the connection with the level of urbanization--and thus of industrialization--stands out, as in the case of the marriage rate. This trend appears even more clearly if we take the divorce rate according to counties.

Table 8. The Divorce Rate According to Historical Provinces, 1966-1984

Years	Ro- ma- nia	Ol- te- nia	Mun- te- nia	Do- bru- ja	Mol- da- via	Banat	Tran- syl- vania	Crisana- Maramures	Munici- pality of Bucharest
1966-1970	0.45	0.30	0.37	0.47	0.32	0.56	0.38	0.40	1.46
1971-1975	0.84	0.54	0.64	0.84	0.59	1.02	0.75	0.79	2.66
1976-1980	1.51	1.21	1.32	1.64	1.32	1.82	1.33	1.35	3.14
1981	1.50	1.13	1.30	1.76	1.30	1.87	1.29	1.29	3.53
1982	1.48	1.13	1.30	1.55	1.33	2.03	1.27	1.29	3.16
1983	1.53	1.04	1.35	1.62	1.41	2.02	1.33	1.31	3.15
1984	1.45	1.19	1.25	1.45	1.31	1.87	1.28	1.37	2.76

The counties with the lowest divorce rate--Salaj, Olt, Vaslui, etc.--are less industrialized and urbanized; the highest divorce rate is found in the counties of Constanta, Arad, Brasov, Hunedoara, Prahova, and Timis and, obviously, in the municipality of Bucharest, that is, where industrialization and urbanization are of an older date. The divorce rate in the municipality of Bucharest is over four times higher than in Salaj County; the divorce rate in Brasov County is two times higher than in adjacent Covasna County.

Table 9. The Divorce Rate According to Counties, 1980-1984 (in Increasing Order)

County	Divorce Rate	County	Divorce Rate
1. Salaj	0.69	22. Vrancea	1.32
2. Olt	0.81	23. Bacau	1.35
3. Vaslui	0.86	24. Mures	1.35
4. Buzau	0.88	25. Neamt	1.35
5. Covasna	0.88	26. Vilcea	1.35
6. Ialomita	0.88	27. Suceava	1.43
7. Teleorman	0.91	28. Iasi	1.46
8. Botosani	0.95	29. Dimbovita	1.47
9. Harghita	0.99	30. Sibiu	1.47
10. Bistrita-Nasaud	1.02	Romania	1.50
11. Calarasi	1.04	31. Braila	1.55
12. Cluj	1.06	32. Arges	1.56
13. Giurgiu	1.06	33. Galati	1.73
14. Maramures	1.12	34. Caras-Severin	1.73
15. Dolj	1.13	35. Constanta	1.75
16. Satu-Mare	1.13	36. Arad	1.81
17. Alba	1.20	37. Brasov	1.82
18. Bihor	1.24	38. Hunedoara	1.87
19. Gorj	1.29	39. Prahova	1.93
20. Mehedinti	1.29	40. Timis	2.05
21. Tulcea	1.29	41. Municipality of Bucharest	2.99

The general description of the divorce rate in Romania's population brings out several aspects: the growth of the divorce rate--characteristic, of course, of demographic transition--the general connection between the level of the marriage rate and that of the divorce rate, the relationship between urbanization and the divorce rate, and the effect of legislation. The hardest part, however, is the analysis of the causes of the divorce rate, which will have to be done as soon as possible. In order to do it, we need more detailed statistical data and sociological, legal, and psychological surveys. Theories and models of the marriage rate and the divorce rate are also necessary. In the international literature there is a great variety of theories and models. We mention those of L. Roussel (Footnote 8) (L. Roussel, "Mariages et divorces. Contribution a une analyse systematique des modeles matrimoniaux," POPULATION (INED), No 6, 1980), A. Girard, P. Festy, and G. Becker. Of course, it is necessary to begin with the analysis of the marriage rate and matrimonial models, of the "matrimonial market," etc.

But the factors, motivations, and characteristics of marriage and divorce, valid for Western society, are not the same for Romanian society, in which there are other cultural models.

Special attention must be devoted to studying the new trends: the drop in the marriage rate, the rise in the mean age at the first marriage, the possible appearance of "juvenile cohabitation," and the high level of the divorce rate. As we said, the importance of the divorce rate, as a social phenomenon, dictates the immediate organization of surveys and studies, with multidisciplinary participation.

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